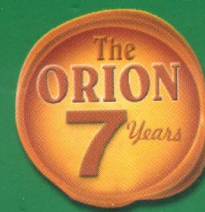


The ORION

Medical Journal



Vol-22, September-December 2005

Editorial

- 290 Scaling up zinc treatment: Involving pediatricians
Sultana S, Shakur MS, Larson CP

Articles

- 291 Sero-prevalence of kala-azar and its clinical presentations
in a rural community of Bangladesh
Mamoon ABA, Chowdhury ZU, Jahan K, Begum N
Chowdhury SA, Masum MA

- 294 Behcet's syndrome: A review
Amin MR

- 296 Diabetes mellitus : An easy approach
Rahman MR, Basunia MRA, Khan MMZA, Nag DC

- 298 Health consequences of obesity
Rashid MA, Chowdhury MZ, Saha BC

- 300 Ischemic factor, medical and surgical treatment for
neuroprotection in glaucoma
Biswas SK

- 302 Meningitis : An overview
Ekram ARMS, Hasan AMS, Hussain SM, Ahmed I
Rahman MF

- 305 Concepts in sports medicine
Rahman MS

- 307 Menopause and HRT
Nasreen SZA

- 308 Brucellosis: An overview
Khan MAA

- 310 Rupture sinus of valsalva and peripheral arterial disease :
A rare combination
Patwary MSR, Reza AQM, Faruque M, Sharmina R, Zaher A

- 312 Cervical rib surgery : A study of 20 cases
Rahman ML, Mohammad G, Alam I, Shahjahan A

- 313 "Plain radiography" : Still now the gold standard for
the diagnosis of bone tumor
Akhand MI, Ghamsari PS

Case report

- 315 Dislodged ureteric stent induced vesical calculus :
A case report
Ali M, Miah AKMA, Shalahuddin KAKM, Sumon SM
Kibria ABMG, Banna FMAH

Product

- 316 Launching of New Products

MSD News

Medi News

Relentless Voyage to Continued Medical Education Program since 1998

BABY'S CRYING BECAUSE OF FLATULENCE



Pedicon

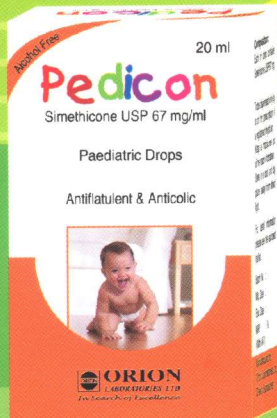
Simethicone USP 67 mg/ml

... No more cry

10 ml

&

20 ml



First time
in Bangladesh



ORION
LABORATORIES LTD.

In Search of Excellence



Onium

Tiemonium Methylsulphate 50 mg

the novel antispasmodic



Freedom from Visceral Spasm



ORION
LABORATORIES LTD.

In Search of Excellence



The ORION medical journal

The Advisory Board

PROF. M Q K TALUKDER

MBBS, DIPNUTR (Lond), DCH (Glasg), FRCP (Edin), Ph.D (Edin), FCPS (BD), Ex-Director, Institute of Child and Mother Health, Matuail, Dhaka.

PROF. M. A. MAJED

MBBS (Dha), FRCS (Eng), DLO (Lond), FCPS (BD), FCPS (PAK), Sr. Consultant, Department of ENT, Holy Family Red Crescent Hospital, Dhaka.

PROF. ABU AHMED CHOWDHURY

MBBS, FRCS, FCPS, FICS, Medical Director and Professor of Surgery, Bangladesh Medical College.

PROF. MUSTAFIZUR RAHMAN

MBBS, FRCS (I), FRCS (E), DO, Director, MAI Institute of Ophthalmology, and Chief Consultant Islamia Eye Hospital.

PROF. SHEIKH NESARUDDIN AHMED

MBBS (Dhaka), DTM and H MRCP (Edin), FRCP (Edin), Ex-Professor and Head, Department of Medicine, DMCH.

PROF. KHMS SIRAJUL HAQUE

MBBS, FCPS, FCPS (PAK), FRCP (Edin), FACC, Professor and Chairman, Department of Cardiology, Bangabandhu Sheikh Mujib Medical University.

PROF. M.N. ISLAM

MBBS, FCPS, FRCP (Edin), Professor Emeritus, BSMMU Ex-Professor and Chairman, Department of Pediatrics, Bangabandhu Sheikh Mujib Medical University.

PROF. MOTIOR RAHMAN

MBBS, FRCS, FICS, FACS, Honorary Chief Consultant Surgeon, Department of Surgery, BIRDEM, Dhaka.

PROF. SHAHLA KHATUN

FRCOG, FICS, Department of Obstetrics and Gynaecology, BMCH

PROF. DR. ANISUL HAQUE

MBBS, Ph.D., FCPS, FRCP (Edin), Professor and Chairman, Department of Neuromedicine, BSMMU.

MAJOR GENERAL (Retd.) PROF. ZIAUDDIN AHMED

MBBS (Dhaka), MCPS (Medicine), FCPS (Medicine), MRCP, FRCP (Ireland), FRCP (Glasgow, UK), Principal & Professor of Medicine, Medical College for Women & Hospital.

PROF. M. N. ALAM

MBBS, MRCP (UK), FRCP (Glasgow), Ex-Professor, Department of Medicine, BSMMU.

PROF. MOHAMMAD NAZRUL ISLAM

MBBS, FCPS, FRCP (Edin), FCCP, FACC, Professor & Head of the Department of Cardiology DMCH.

PROF. KAZI MESBAHUDDIN IQBAL

MBBS, DA (Lond), FFARCS (I), FRCA (E), FCPS, Professor & Chairman, Department of Anaesthesia, Analgesia & Intensive Care Medicine, BSMMU, Dhaka.

PROF. HARUN-AR-RASHID

MD, MSc., MPH, PhD, FRCP (Dhaka) Director, Bangladesh Medical Research Council (BMRC), Mohakhali, Dhaka.

The Review Board

PROF. T. A. CHOWDHURY

MBBS, FRCS, FRCOG, FRCP, FCPS (B), FCPS (P), FICS, Professor and Senior Consultant, Department of Obstetrics and Gynecology, BIRDEM, Dhaka.

PROF. SAYEDA NURJAHAN BHUIYAN

FRCOG, Ex-Head, Department of Obstetrics and Gynecology, CMCH and Ex-Principal, Chittagong Medical College.

PROF. A. F. M. RUHAL HAQUE

FRCS (ED), FICS, Ex-Professor and Chairman, Department of Orthopedics, BSMMU.

PROF. ANM ATAI RABBI

FCPS, FICS, Professor and Chairman, Department of Surgery, BSMMU.

PROF. A. Z. M. MAIDUL ISLAM

MBBS, D.D. (Dhaka), A.E.L.(Paris), A.E.S.D and V (Paris) D.T.A.E (Paris)

Chairman and Professor, Department of Dermatology and Venereology, BSMMU.

PROF. FERDOUS ARA J JANAN

MBBS (Dhaka), MD (USA), FRCP (Edin), FIBA (UK), Professor, Department of Medicine, BSMMU

PROF. HASINA BANOO

FCPS, Ex Professor of Cardiology, NICVD.

PROF. M.A. SOBHAN

MBBS, FCPS (Surgery) Professor and Head, Department of Surgery and Principal Rangpur Medical College and Hospital, Rangpur.

PROF. A. K. M. ESHAQUE

D.Ortho., M.S. (Ortho.), FAPOA, Professor and Head of the Department of Orthopedics, Sir Salimullah Medical College & Mitford Hospital, Dhaka.

PROF. KHURSHED JAHAN

MBBS, MPH, PhD, Professor, Institute of Nutrition and Food Science, University of Dhaka.

PROF. KOHINOOR BEGUM

MBBS, FCPS, Professor Department of Obstetrics and Gynecology, Dhaka Medical College Hospital.

PROF. QUAZI DEEN MOHAMMED

MBBS, FCPS (Med), MD (Neuro), Fellow Neurology (USA), Professor, Department of Neurology, DMCH.

DR. MAMTAZ HOSSAIN

MBBS, FCPS (Med.), Diploma in Cardiology (DU), Associate Professor, National Institute of Cardiovascular Diseases, Dhaka.

DR. MAHBUBUR RAHMAN

MBBS, Msc, Ph.D. (Distinction), FRCP (EDIN), Scientist, Laboratory Sciences Division, ICDDR,B.

DR. A.B.M. ABDULLAH

MBBS (Dhaka), MRCP (UK), FRCP, Associate Professor, Department of Medicine, BSMMU.

PROF. DR. A.H MOHAMMAD FIROZ

MBBS, DPM, MAPA, MCPA, MBA, FCPS, MRCP, FRCP Professor of Psychiatry, Director, National Institute of Mental Health, Dhaka.

Editor's Choice

The ORION, ONE AND ONLY

The ORION is the unique scientific publication that has been persistently bestowing the doctors' community of Bangladesh with a specialty, 'avowing local doctors' internationally with their research work' since 1998. The ORION is exclusively accentuating the local research work and endorsing national diseases epidemic with its native treatment protocol.

This enormous endowment is possible because of arduous efforts of the valued authors, continuous support of the esteemed readers and fabulous contribution of the respective members of 'The Advisory & The Review Board'. The ORION also accredits the members of 'The Editorial Board' and all its well-wishers for enduing such immense asseveration. This superlative enthruses The ORION for successive advancement to be aligned into broad medical spectrum.

Therefore, the editorial of the current issue focuses on the most burning micronutrients-Zinc and involving pediatricians for scaling up zinc treatment (P-290). This issue is also enriched with an original article regarding sero-prevalence of kala-azar and its clinical presentation in a rural community of Bangladesh (P-291).

A review article on 'Diabetes mellitus : An easy approach' nicely sketches disease profile, management, complication and the patients education (P-296). Another review article points out Behcet's syndrome, which is relatively rare in Bangladesh receiving awareness as it labeled with aphthous ulcers (P-294). A review article on 'Health consequences of obesity' is focused on the definition of obesity as per body mass index and its common disorders (P-298).

Another article on 'ischemic factor, medical & surgical treatment for neuroprotection in glaucoma' (P-300) highlights the management of glaucoma with controlling of IOP as well as neuroprotection of eye. Other article on 'Meningitis' (P-302) gives emphasis on modern information for diagnosis and treatment of the disease. An interesting article on 'Concept in sports medicine' (P-305) describes prevention, management and rehabilitation of sports injuries. Role of hormone replacement therapy in case of post-menopausal woman is nicely discussed in the article on Menopause and HRT (P-307).

Diagnostic value of plain radiography in case of bone tumour is informatively established in the article 'Plain radiography : still now the gold standard for the diagnosis of bone tumour' (P-313). A very Important infectious disease Brucellosis is congregated briefly in a review article (P-308). A very interesting article reveals about a rare combination of two diseases- rupture sinus of valsalva and peripheral arterial disease (P-310). Another article from neurosurgery arena discusses about surgical outcome of patients of thoracic outlet syndrome caused by cervical ribs (P-312). The case report of this issue experiences the consequences of dislodged ureteric stent induced vesical calculus (P-315).

The opinion and suggestion of the valued readers are always appreciated to make The ORION medical journal ameliorated steadily.

May the Almighty bless all in the spirit of good health.

DR. MOHAMMAD ZAKIRUL KARIM

Chief Editor, The ORION and Manager, Medical Services Department Orion Laboratories Ltd.

Editorial Board

Chief Editor

Dr. MOHAMMAD ZAKIRUL KARIM

Executive Editor

DR. KAZI ANISUR RAHMAN ROMAN

Guest Editor

PROF. M. A. K. AZAD CHOWDHURY

DCH (UK), MRCP (UK), MRCP (IRE), FRCP, Professor, BICH and Sr. Consultant, Dhaka Shishu Hospital.

Consulting Editor

G. H. RABBANI, MD, Ph.D., FACC Scientist, Clinical Sciences Division, ICDDR,B.

Associate Editors

DR. G. M. RAIHANUL ISLAM, Rajshahi

DR. KAZI RFIQUL ALAM, Dhaka

DR. MD. KHALID EBNA SHAHID KHAN, Dhaka

DR. MD. SYDUL ISLAM, Barisal

DR. TITU MOHON SAHA, Khulna

DR. UTPAL KANTI DAS, Sylhet

DR. MOYNAL HOSSAIN, Chittagong

Scaling up zinc treatment: Involving pediatricians

Sultana S¹, Shakur MS², Larson CP³

The ORION 2005 ; 22 : 290

Globally, about 10.8 million under-five year old children die every year. Ninety percent of these deaths occur in developing countries. In South Asia almost one in ten children die before their fifth birthday¹. Diarrhea is one of the leading causes of morbidity and mortality among these children. Diarrheal diseases are the cause of almost two million deaths annually^{2,3}, mainly among children less than 5 years of age.

It is well documented that diarrhoeal episodes last longer in children who are underweight and have a low level of (cell-mediated) immunity. Both of these can result from zinc deficiency. A relationship between zinc and diarrhea was shown in a study in which 12-59 month-old Indian children with zinc deficiency were found to have 1.5 times more diarrhea than those without⁴.

The World Health Organization sponsored a meeting in New Delhi which summarized the current knowledge on the effects of zinc supplementation on the management of acute diarrhea. All the available published and unpublished studies on this topic, conducted both in hospitals and in the community, were reviewed. It was concluded that zinc treatment, given at a dose of about double recommended daily allowances (RDAs) per day (10 to 20 mg per day) for 14 days, can significantly reduce the severity of diarrhea as well as the duration of episodes⁵. In 2004, WHO and UNICEF gave a joint statement on management of diarrhea where they recommended to provide the children with 20 mg per day zinc supplementation for 10-14 days (10 mg per day for infants under six months old⁶). This year zinc was incorporated in the essential drug list of WHO.

Diarrhea is one of the leading causes of death among Bangladeshi children. A study conducted by ICDDR, B showed that 20% of under five years old death is associated with diarrheal diseases, in Bangladesh. In addition children in Bangladesh experience an average of 3 to 4 episodes of diarrhea per year⁷.

Given zinc treatment of diarrhea has the potential to reduce diarrhoea morbidity and subsequent mortality, ICDDR, B applied for funding to support the 'Scaling up Zinc Treatment for Young Children with Diarrhea (SUZY)' Project. Funding was received from the Bill and Melinda Gates Foundation. The goal is to set the program on a path to reach all children of Bangladesh, regardless of gender, income or where they live in providing zinc as a treatment for any diarrheal disease episode.

Paediatricians in Bangladesh are the top line of care providers for children. The licensed general private health care providers usually follow the practices and guidance of pediatricians. They in turn influence other providers. The Bangladesh Pediatric Association (BPA) provides expert recommendation

on child health care to the Government of Bangladesh and the Ministry of Health and Family Welfare (MOH-FW) on a number of issues. Given their importance, the SUZY project organized a series of workshops with the pediatricians from the 6th to 9th December 2004 to sort out the appropriate plan to involve the pediatricians in the project. The participants of all the sessions were interactive and enthusiastic. Majority of the Pediatricians including national professor MR Khan, Director of Dhaka Shishu Hospital Professor Salim Shakur appreciated that appropriate steps for scaling up zinc treatment in under five years old children with diarrhea are being initiated in Bangladesh. Dr. Chowdhury Md. Haider Ali, Secretary General of Bangladesh Paediatric Association (BPA) proposed to organize seminars with pediatricians through the BPA to ensure the participation of all the pediatricians of Bangladesh through a single forum.

Following this a scientific seminar was organized by the BPA in association with the SUZY Project, on 'The Role of Zinc in Young Children with Acute Diarrhea' in BPA's regular scientific forum on 13th April 2005.

Dhaka Shishu Hospital & the Bangladesh Institute of Child Health (BICH) is the only public specialized children hospital and postgraduate institute for the pediatricians in Bangladesh. A second seminar on the 'Pediatric Use of Zinc' was held on 13 June, 2005 in collaboration with BICH. ORION laboratories Limited, one of the leading pharmaceutical companies of Bangladesh, sponsored the seminar.

A cooperative effort among all providers, under the leadership of pediatricians, holds the promise of preventing over 50,000 deaths in under-five children per year in Bangladesh.

References

1. Robert E Black, Saul S Morris, Jennifer Bryce. Where and why are 10 million children dying every year? *The Lancet*, Vol 361, June 28, 2003
2. Bern C, Martinez J, de Zoysa I Glass RI. The Magnitude of the global problem of diarrheal diseases: a ten-year update. *Bulletin of the World Health Organization* 1992; 70:705-14
3. Bjarne Robberstad, Tor Strand, Robert E Black & Halvor Sommerfelt. Cost effectiveness of zinc as adjunct therapy for acute childhood diarrhea in developing countries. *Bulletin of the World Health Organization* July 2004, 82 (7)
4. Dr. AH Baqui, International Zinc Conference Presentation, 18 & 19 April, 2004.
5. Bahl R et al. Effect of zinc supplementation on clinical course of acute diarrhea. Report of a meeting, New Delhi, 7-8 May 2001. *J Health Popul Nutr* 2001 Dec; 19 (4): 338-346
6. World Health Organization. WHO/UNICEF joint statement. Clinical management of acute diarrhea. Ordering code: WHO/FGH/CAH/04.7 or UNICEF/PD/Diarrhea/01
7. Roy SK et al. Randomised controlled trial of zinc supplementation in malnourished Bangladeshi children with acute diarrhoea. *Archives of Disease in childhood*, September 1997, vol 77, no 3, p 196-200.

Publisher's Note

Contents of articles published in this journal are those of authors and do not necessarily reflect those of its editors or of Orion Laboratories Ltd.

Published by :

Chief Editor, **The ORION**

Orion Laboratories Ltd.

153-154 Tejgaon I/A, Dhaka-1208

PABX : 9888494, 9888176, Ext-605/636

Fax : 880-2-8826374, e-mail : orionmsd@dhaka.net

Web: www.orion-group.net/journals

1. **Dr. Samina Sultana**, MBBS
Training co-ordinator, SUZY Project, ICDDR,B
2. **Prof.Md. Salim Shakur**, PhD, FRCPCH (UK), FRCP (London), FRCP (Edin)
FRCP (Glasgow), MRCP (UK), DCH (Glasgow), DCH (Dublin), MBBS (Dhaka)
Director, Senior Consultant & Member, Management board, Dhaka Shishu Hospital.
3. **Dr.Charles P.Larson**, MD, CM, FRCP (C)
Director, Health System & Infections Diseases Division, PI
SUZY Project, ICDDR,B

Sero-prevalence of kala-azar and its clinical presentations in a rural community of Bangladesh

Mamoon ABA¹, Chowdhury ZU², Jahan K³, Begum N⁴, Chowdhury SA⁵, Masum MA⁶

The ORION 2005 ; 22 : 291-293

Abstract

This was a descriptive type of cross sectional study carried out among the people in a selected village (Lahiripara) of Fulbaria upazila under Mymensingh district of Bangladesh. The study area was endemic for kala-azar. The objective of the study was to find out the sero-prevalence of kala-azar and its clinical presentations. Total 218 respondents were studied from 46 households. All the members of the households were interviewed and their blood samples were taken to find out the sero-prevalence by using ELISA test. In the study 12.4% of the respondents were sero-positive for kala-azar, which consisted of present kala-azar and past kala-azar cases. The highest percentage (40.7%) of them were in the age group of < 10 years and male and female ratio was 1.7:1. In addition, clinical examinations were done among the suspected febrile cases to find out the clinical presentations. During the study 17 febrile patients were found, among them 47.0% were serologically positive. Out of 8 present kala-azar cases, 50.0% and 37.5% had palpable spleen and liver respectively. The other important symptoms and signs of patients showed that 62.5% mildly, 37.5% moderately anaemic and 62.5% were moderately emaciated. Furthermore, 87.5% had clean tongue and normal appetite each. Besides, 37.5% had cough, 25.0% loose motion, 12.5% Jaundice and none of them had epistaxis, gum bleeding and palpable lymph nodes. Serological findings of the study area indicated that there might be an increasing trend of kala-azar in the country.

Key words

Kala-azar, Sero-prevalence, Present kala-azar cases, Past kala-azar cases, Clinical presentations.

Introduction

Visceral Leishmaniasis (VL), commonly known, as kala-azar is a chronic febrile disease caused by the protozoan parasite, *Leishmania donovani*¹. The disease is characterized by chronic fever, hepato-splenomegaly, emaciation and anaemia^{2,3}. Fever is of gradual or sudden onset. It is persistent and irregular, often with two daily peaks, with alternating periods of a pyrexia and low-grade fever. Post Kala-azar Dermal Leishmaniasis (PKDL) may occur after the apparent cure of systemic disease⁴. It is a rural disease affecting peasants, male and youngs more

and if untreated, has a mortality rate of almost 100%^{4, 5, 6}. It is now endemic in 88 countries with a total 350 million people at risk⁴. Worldwide there are estimated to be approximately 500,000 cases of visceral leishmaniasis per year⁷. The incidence of kala-azar has been increasing since 1987 and 90% of all kala-azar cases occur in Bangladesh, Brazil, India, Nepal and Sudan⁸. At present the disease is a re-emerging major public health problem in Bangladesh. Previously it was also a public health problem in this country (East Bengal and The East Pakistan) in 1940s and 1950s. The disease had almost disappeared due to DDT house spraying (which reduced the sand fly density) for malaria control in the 1960s. In the late 1970s the disease reappeared in this country with a high magnitude. This is due to dis-continuation of DDT spraying for malaria eradication program. The disease has been reported from 41 districts out of 64 districts of Bangladesh. The number of cases is increasing and reports from the district health authorities indicate that >15000 new cases can be expected annually⁹. The current prevalence is estimated as 40,000 cases. The total population at risk is more than 20 million¹⁰. A recent study showed that the highest number of positive kala-azar cases were found in the district of Mymensingh, followed by that of Tangail, Gazipur, Dhaka, Sirajgonj and Manikganj etc. which indicates that kala-azar was widespread in many areas of Bangladesh¹¹. Although kala-azar has been a notifiable disease in this country since 1987, reporting as well as diagnostic and curative capabilities of rural health services are still very limited⁵.

Materials and methods

The study was a descriptive type of cross sectional study. It was done in a village named Lahiripara of Fulbaria upzila under Mymensingh district. The sample size was calculated as 198 with error tolerated .01. The sample size was increased to 218 to cover all the members of the calculated households. Multi stage sampling method was followed for the selection of the village of the study. Systematic Random Sampling method was followed with sampling interval 11 for the selection of households to collect the data. Every 11th house was selected based on GR number. Total households were 46, which consisted of 218 members. Face-to-face interview was done using semi-structured questionnaire. Physical examination of febrile persons of the households were done to collect data on current clinical presentations. Blood sample was collected from all of the members of household's for laboratory diagnosis. Enzyme-Linked Immunosorbent Assay (ELISA) test was applied for the serological test for kala-azar. It is a serological test with 100% specificity above 98% sensitivity^{12, 13, 14}. In the present study commercially available antigen (promastigote) coated microtitre plate has been used to which patient's sera were added and incubated. After various steps of washing conjugate was added. Then definite period of incubation substrate was given and finally the stopping solution was added. The absorbances were read at 492 nm using an ELISA reader. Test was done in the Microbiological laboratory of National Institute of Preventive and Social Medicine (NIPSOM) and Bangladesh Institute of Research and Rehabilitation in Diabetes Endocrine and Metabolic Disorders (BIRDEM). SPSS software was used for the data entry and analysis.

1. **Dr. A.B. Al Mamoon**, MBBS, MPH (PHA), M. Phil (Thesis part) Institute of Nutrition and Food Science (INFS), University of Dhaka.
2. **Prof. Md. Zafor Ullah Chowdhury**, MBBS, M. Phil (Microbiology) Director, National Institute of Preventive and Social Medicine (NIPSOM) Mohakhali, Dhaka.
3. **Prof. Dr. Khurshed Jahan**, MBBS, MPH (Harvard), PhD (Dhaka) Institute of Nutrition and Food Science (INFS), University of Dhaka.
4. **Dr. Nilufar Begum**, MBBS, M. Phil (Microbiology) Assistant professor of Microbiology, National Institute of Preventive and Social Medicine (NIPSOM), Mohakhali Dhaka
5. **Ms. Shamsi Ara Chowdhury**, MPH (Belgium) Scientific Officer, Institute of Epidemiology Disease Control and Research (IEDCR), Mohakhali, Dhaka.
6. **Dr. M. A. Masum**, PhD (London), M. Sc (London), DTM&H (London) DPH (London), MBBS (Dhaka). Assistant Professor, Parasitology Department. National Institute of Preventive and Social Medicine (NIPSOM) Mohakhali, Dhaka.

Results

A total of 218 household's members were included in this study. Among them 12.4% persons were found sero-positive to kala-azar.

Table-I : Distribution of the household's members by serological test (ELISA) results for kala-azar (n=218)

Serological Test result	Number	Percentage
Positive	27	12.4%
Negative	191	87.6%
Total	218	100%

The table-II Shows the relationship between different age groups of household's members with serological test results. It was found that out of 27 sero-positive cases, 40.7% patients were less than 10 years of age, 22.2% were 11-30 years and only 18.5% more than 31 years of age. The relationship is statistically not significant ($p > .05$).

Table-II : Age group of household's members with serological test results (n=218)

Age group (in years)	Test results		Total
	Positive	Negative	
< 10	11 (40.7%)	54 (28.3%)	65 (29.8%)
11-20	6 (22.2%)	46 (24.1%)	52 (23.9%)
21-30	5 (18.5%)	31 (16.2%)	36 (16.5%)
< 31	5 (18.5)	60 (31.4%)	65 (29.8%)
Total	27	191	218

$$\chi^2 = 2.662 \text{ df} = 3 \text{ p} = 0.447$$

Majority (63.0%) of the sero-positive cases were male and 37% were female. The association between the sex and sero-positive result was not statistically significant ($p > 0.05$).

Table-III : Distribution of respondents by sex and serological test result (n=218)

Sex	Serological test result		Total
	Positive	Negative	
Male	17 (63%)	88 (46.1%)	105 (48.2%)
Female	10 (37%)	103 (53.9%)	113 (51.8%)
Total	27 (100%)	191 (100%)	218 (100%)

$$\chi^2 = 2.703 \text{ df} = 1 \text{ p} = 0.100$$

Among the total 27 sero-positive kala-azar cases, majorities 70.4% of them were past kala-azar and 29.6% were present kala-azar cases.

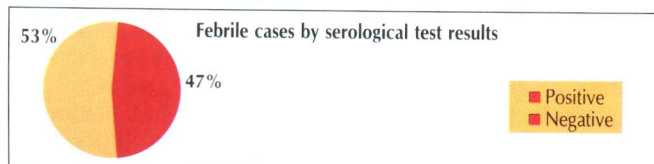
Table - IV: Kala-azar cases by serological test results (n = 30)

Cases	Serological test result		Total
	Positive	Negative	
Present kala-azar cases	8 (29.6%)	0	8 (26.7%)
Past kala-azar cases	19 (70.4%)	3 (100%)	22 (73.3%)
Total	27 (100%)	3 (100%)	30 (100%)

χ^2 test is not valid here

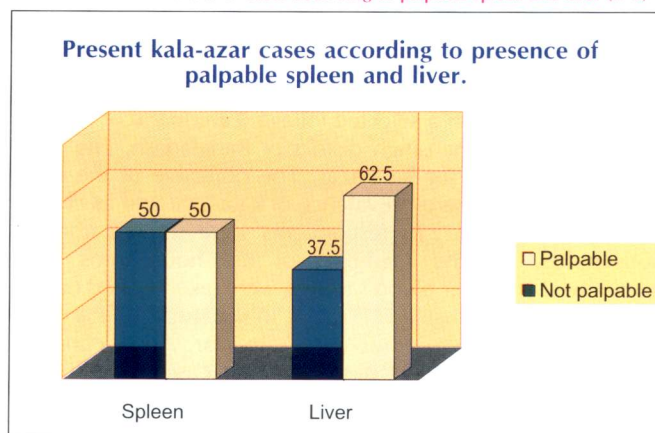
The pie-chart shows the sero-positive cases among the febrile patients. Here it was seen that among the 17 febrile patients, 47.0% persons were found sero-positive and 53.0% sero-negative.

Figure-I: Febrile cases by serological test results (n=17)



The bar-chart describes the present kala-azar cases on the basis of presence of palpable spleen and liver. Among the 8 present kala-azar cases, 50.0% and 37.5% had palpable spleen and liver respectively.

Table - II : Present kala-azar cases according to palpable spleen and liver (n=8)



The important clinical symptoms and signs of the present kala-azar cases are described in table V and VI.

Table - V: Present kala-azar cases with common symptoms and signs (n=8)

Symptoms/signs	Present	Absent	Total
Jaundice	1 (12.5%)	7 (87.5%)	8 (100%)
Gum Bleeding	0	8 (100%)	8 (100%)
Epistaxis	0	8 (100%)	8 (100%)
Clean tongue	7 (87.5%)	1 (12.5%)	8 (100%)
Palpable lymph node	0	8 (100%)	8 (100%)
Cough	3 (37.5%)	5 (62.5%)	8 (100%)
Loose stool	2 (25.0%)	6 (75.0%)	8 (100%)
Normal appetite	7 (87.5%)	1 (12.5%)	8 (100%)

Table - V: Present kala-azar cases with common symptoms and signs (n=8)

Signs	Absent	Mild	Moderate	Severe	Total
Anamia	0	5 (62.5%)	3 (37.5%)	0	8 (100%)
Emaciation	1 (12.5%)	8 (12.5%)	5 (62.5%)	1 (12.5%)	8 (100%)

Discussion

The study finding showed that out of 218 respondents, females (51.8%) were a little bit more than males. The highest number (29.8%) of the respondents were within both the age groups of < 10 years and > 31 years. The present study revealed that out of all respondents, 12.4% were found sero-positive for kala-azar (table-I), which is alarming situation of the disease condition in endemic area. Moreover, it is seen that the disease is also wide spread in many areas of Bangladesh¹¹.

Kala-azar occurs in all age groups but in India, the peak age is 5-9 years¹. In a recent study it was stated that there were two peak incidence of age groups, one with in the age range of 0-10 years and another with in the age range of 26-30 years¹¹. In another study conducted by Talukder¹⁵ showed that the highest number (27.9%) of the patients of kala-azar were in the age group of < 10 years. In the present study, the highest number (40.7%) of the respondents with sero-positive result for kala-azar were in the age group of < 10 years. The present study result may be regarded as consistent with the findings of the other studies mentioned.

Regarding the sex distribution of the sero-positive cases, it was found that 63.0% were male and 37% were female. Male female ratio was 1.7:1. This result was consistent with the study

findings of Begum N et al, in which male and female ratio was 1.8:1 during 1996-1998¹¹. In another study by Talukder¹⁵ it was revealed that male-female ratio was 1.88:1. So, reviewing the present study with the previous, it may be commented that kala-azar is more common in male than female. However, the present study does not show statistically significant association between sex of the respondents and sero-positive result. The classical features of kala-azar are fever, splenomegaly and hepatomegaly accompanied by anaemia and weight loss, darkening of the skin. Atypical features of the disease (eg-lymphadenopathy) may occur⁴ other features are haemorrhagic manifestations cough and unaltered appetite⁵. During the study 17 febrile patients were found, among them 47.0% were serologically positive. The study of Begum N et al, showed that 44.9% were found sero-positive among the febrile patient¹¹ and the results of both the study is very nearer. So the result is almost consistent with the result of the former study. Out of 8 present kala-azar cases, 50.0% and 37.5% had palpable spleen and liver respectively. The other important symptoms and signs of patients showed that 62.5% mildly, 37.5% moderately anaemic and 62.5% were moderately emaciated. Furthermore, 87.5% had clean tongue and normal appetite each. Besides, 37.5% had cough, 25.0% loose motion, 12.5% Jaundice and none of them had epistaxis, gum bleeding and palpable lymph nodes.

References

1. World Health Organization (WHO) Technical Report Series. No. 701, 1984. The Leishmaniasis, report of expert committee.
2. Marinckelle C.J. The control of Leishmaniasis. Bulletin of the World Health Organization. 1980. 58 : 807.
3. Chatterjee K.D. Parasitology (Protozoology and Helminthology). 12 th edition, 1980.
4. Park K. Park's Textbook of Preventive and Social Medicine. 16th edn. 2000, M/S Banarsidas Bhanot Publishers, Jabalpur, India : 23 -233.
5. Chowdhury M S, Ahmed M T U, Hussain A M Z, et al. Visceral leishmaniasis its control. 1 st ed. Dhaka : IEDCR; 1993 ; 4 - 28.
6. Rashid K M, Khabir M, Haider S. The text book of Com. Med. & Public Health. 3rd ed. Dhaka : RKH publishers; 1999 : 317 - 322.
7. T.K. Jha, Shayam Sundar, Thakur, Bachmann Peter, Juntra Kabwang, Chris Fisher, Andres Voss et.al. Multefosine, an oral agent for the treatment of Indian Visceral Leishmaniasis. The New England Journal of Medicine. 1999; 341 (24) : 17995 - 99.
8. Desjeux, P. Human Leishmaniasis: Epidemiology and public aspects. World Health Statistics Quartile. 45 (2/3): 167 - 275, 1992.
9. Laboratory diagnosis of kala-azar (Visceral leishmaniasis) with the Direct Agglutination Test (DAT) - A training module for laboratory Technician, Published by IEDCR And M&PDC, DGHS, 1996.
10. Kala-azar (Visceral Leishmaniasis) Diagnostic, Treatment and recording charts- A training module for medical officers. Published by Malaria and Parasitic Disease Control (M&PDC) and Institute of Epidemiology Disease Control and Research (IEDCR), 1995.
11. Begum, N. Masum, M.A. Mamoon. A.B, Begum. A., Visceral leishmaniasis among the suspected febrile patients. Bangladesh Journal of Medicine, 13: 21-25 (Jan,2002).
12. Life-Sciences: The leishmaniasis. http://www.uel.ac.uk/life_science/resources/akhter/intro.htm
13. William JE. Leishmania and Trypanosoma. In medical parasitology. A practical approach. Gillespe SH, Hawkey PM. eds. Oxford university press. 1995
14. Sinha R, Segal S. Comparative evaluation of serological tests in Indian kala-azar. J. Trop. Med. Hyg. 1994; 97(6): 333-40.
15. Talukder MS, Sociodemographic profile and present health status of kala-azar patients treated at Sarishabri Upazilla Health Complex (Dissertation). Dhaka, NIPSOM; 2000.



Simgel

Antacid with Antiflatulent



ORION
LABORATORIES LTD.
In Search of Excellence



Behcet's syndrome : A review

Amin MR¹

The ORION 2005 ; 22 : 294-295

Introduction

Behcet's disease is relatively rare in Bangladesh though it has worldwide distribution. Many patients present to general practitioner or even specialist clinic with oral ulcerations. They are labeled as having aphthous ulcers. But if we adhere to the international criteria for the diagnosis of Behcet's syndrome, prevalence of the disease will be higher. The aim of the article is to raise the awareness among medical practitioners about the disease.

Discussion

Behcet's syndrome is a vasculitis of unknown aetiology that characteristically targets venules. It is a multisystem disorder presenting with recurrent oral ulceration that recurs at least three times in one year time in presence of any of the two of the following¹ recurrent genital ulceration retinal vasculitis anterior or posterior uveitis cutaneous lesion (erythema nodosum-pseudofolliculitis papulopustular lesion) or acniform nodules in post adolescent patient who are not receiving oral corticosteroid treatment or a positive result to a pathergy test. In addition to these international study group criteria, O'Duffy's criteria also included synovitis or meningoencephalitis and only the more specific skin finding of vasculitis. He excluded patient with inflammatory bowel disease, collagen vascular disease and herpetic infection.

Prevalance, pathogenesis and pathology

The disease has a worldwide distribution. It is rare in western Europe and North America (Prevalance is 1 : 500,000, while in Japan the prevalence is 1 : 100,000). There is a relatively high prevalence in Far East and Mediterranean countries. It relatively affects young adults with male having more severe disease than females.

Etiology and pathogenesis

The etiology and pathogenesis of the syndrome remain obscure though infection, immunological and genetic causes have been postulated but the evidence is still inconclusive. Vasculitis is the main pathologic lesion with a tendency to venous thrombosis and circulating autoantibodies to human oral mucous membrane is found in 50% cases. Familial occurrence has been sporadically reported and in patient from Eastern Mediterranean countries the disease appears to be linked to HLA-B5(B-51) Celloantigen².

Histology

The early lesions show a leukocytoclastic vasculitis. There is perivascular infiltration which is chiefly Lymphocytic in older lesions with endothelial proliferation that obliterates the lumen.

Clinical features

There is a wide range of clinical features and the disease is characterized by unpredictable exacerbations. There are no defining investigations and the diagnosis is made on clinical features. The recurrent aphthous ulcerations are a Sinequa non for the diagnosis. The ulcers are usually painful, shallow or deep with a central yellowish necrotic base, appear singly or in crops and are located anywhere in oral cavity and last for 10-30 days. The lesions are so painful that eating may be difficult. A foul mouth odor is in most instances markedly noticeable.

1. Dr. Md. Ruhul Amin, MBBS, MRCP (UK)

Associate Professor, Dept. of Medicine
Maulana Bhasani Medical College & Hospital, Uttara, Dhaka.

Genital lesions are less common (60-80%). Genital lesions occur in men on the scrotum or penis or urethra; in women, or the vulva, cervix or vagina; they may be found in both sexes on the genitocrural fold, anus, perineum or rectum. Lesions in women may lead to deep destruction of vulva. Swelling of regional lymph nodes and fever may accompany oral and genital ulcers.

Skin involvement includes folliculitis, erythema nodosum, an acne like exanthem, non-specific skin inflammatory reactivity to any scratches or intradermal saline injection (Pathergy test) is a common and specific manifestation.

Eye involvement is a more dreaded complication since it occasionally progresses rapidly to blindness. The ocular lesion start intense periorbital pain and photophobia. Retinal vasculitis is the most classic eye sign and chief cause of blindness. Conjunctivitis may be an early and hypopyon a late accompaniment of uveitis. Iridocyclitis is frequent. Hypopyon uveitis is considered the hall mark of Behcet's syndrome, is in fact a rare manifestation. Eventually both eyes are involved. The disease, untreated leads to blindness from optic atrophy or glaucoma or cataract.

The arthritis of Behcet's syndrome is not deforming and affects the knees and ankles. Superficial and deep peripheral venous thrombosis is seen in one fourth of the patients³.

Pulmonary emboli are a rare complication. The superior vena cava is obstructed occasionally, producing a dramatic clinical picture. Arterial involvement occurs infrequently and presents with aortitis or peripheral arterial thrombus or aneurysm. Pulmonary artery vasculitis presenting with dyspnoea, cough, chest pain or haemoptysis and infiltrates on chest X-ray has been reported recently in 5% cases.

Central nervous system involvement is found in 5% cases and is more frequent in patient of Northern Europe and United States. It can involve the brain stem, meninges hemisphere and spinal cord. The most common lesions are benign intracranial hypertension, multiple sclerosis like picture, pyramidal signs, brainstem signs, cranial nerve lesions and psychiatric disturbance. Remission and exacerbations are the rule. Gastrointestinal involvement is reported from Japanese patient and includes mucosal ulceration of the gut.

International criteria for the diagnosis of Behcet's syndrome⁴

Recurrent oral ulcerations - minor or major aphthous ulcer or herpiform ulceration at least three times in a twelve month period plus two of the following recurrent genital ulceration

Eye lesions

anterior or posterior uveitis, or cells in the vitreous on slit lamp examination or retinal vasculitis.

Skin lesions

erythema nodosum, pseudofolliculitis or papulopustular lesion, acneiform nodules.

Positive pathergy test

Course: usually the disease starts with one oral ulceration followed by others. It may take years before additional lesions

develop. Therefore the diagnosis is acceptable in patient with only two classic signs in addition to oral ulceration. In women oral and genital lesions predominate often with subsequent involvement of eyes.

Differential diagnosis

Behcet's syndrome must be differentiated from herpetic or aphthous stomatitis, pemphigus, oral cancer and Steven-Johnson syndrome⁵.

Laboratory investigations

They are mainly non-specific inflammation such as leukocytosis. Elevated ESR as well as elevated C-reactive protein antibodies to human oral mucosa are also found⁶.

Management

Mucous membrane ulceration may respond to topical glucocorticoids in the form of mouth wash or paste. In more serious cases thalidomide can be used. Saylan et al using thalidomide 200 mg twice daily for 5 days and 100 mg twice a day for 15-60 days, found that it caused rapid healing of aphthae and reduce recurrences⁷. It had no effect on iridocyclitis. Although long term treatment will be commonly complicated by teratogenicity and neurotoxicity⁸.

Thrombophlebitis is treated with aspirin 325 mg/day. Colchicine 0.6 mg twice a day or alpha-interferon can be beneficial for the arthritis of the syndrome. Uveitis and central

nervous system involvement require glucocorticoid therapy, prednisolone 1mg/kg/day or cyclosporin 5-6 mg/kg/day and oral azathiopurine 2-3 mg/kg/day or cyclosporin 5-6 mg/kg/day⁹. Early initiation of azathiopurine tends to favorably affect the long term prognosis of Behcet's syndrome¹⁰.

Prognosis

The severity of the syndrome usually related to time. Apart from the patient with neurological complication the life expectancy seems to be normal and only serious complication is blindness¹¹.

References

1. Harrison's Principles internal Medicine ; 15th edition : P 1956.
2. Davidson's Principle and Practice of Medicine : 19th edition : P1044.
3. Samlaska CP, et al : Superficial thrombophlebitis. 11. Secondary hypercoagulable state : J A M Academy Dermatol 1990;23:1
4. International study group for Behcet's disease : Criteria of diagnosis of Behcet's disease. Lancet 335:1078, 1990
5. Andrew's disease of the Skin, 9th edition : P: 1008-1009.
6. Sakane T et al Behcet's disease. N Eng J Medicine : 34:1284, 1999
7. Saylan T et al Thalidomide in the treatment of Behcet's disease Arch Dermatology 1982. 118:536.
8. Thalidomide in the treatment of Mucocutaneous lesion of Behcet's syndrome. A randomized double blind, placebo-controlled trial : Ann Intern Medicine 128:443, 1998.
9. Masuda K et al: Double masked trial of cyclosporin in Behcet's disease : Lancet 335: 1078, 1990.
10. Pezzi PP et al : Prognosis in Behcet's Disease : Ann ophthalmol 1985 17:20.

P Omeprazole BP 20 mg
Procap 20

The Perfect Antiulcerant

ORION
LABORATORIES LTD.
In Search of Excellence



Diabetes mellitus: An easy approach

Rahman MR¹, Basunia MRA², Khan MMZA³, Nag DC⁴

The ORION 2005 ; 22 : 296-297

Introduction

Diabetes Mellitus (DM) is a clinical syndrome consisting of many diseases. There are many definitions. It may be defined as a clinical syndrome characterized by hyperglycemia due to absolute or relative deficiency of insulin¹. ADA defines diabetes as a group of metabolic disease characterized by hyperglycemia resulting from defects in insulin secretion, insulin action or, both². Whatever the definition is the basic pathology is that there is high blood sugar which is of no use for the body. The goal of treatment is to lower high blood sugar either by insulin and by oral hypoglycemic agents (OHA) and life style modification which include dietary modification and exercise. But exercise alone is seldom worth enough to lower blood sugar level. UKPDS³ showed that introduction of OHA from the very beginning of treatment is better than simple dietary and life style modification. Few important points should be kept in mind while treating diabetic patient. Is the patient diabetic at all? Is there any secondary cause? Is there any complication? What type of treatment modality should be used? How to follow up patients? What should be the targets of treatment?

Classification

There are four clinical classes of diabetes. Type 1, type 2, secondary (due to other causes eg. pancreatic diseases, endocrine diseases, etc.) and gestational diabetes mellitus (GDM)^{4,5,6}. Type 1 diabetes means IDDM and type 2 means NIDDM.

Diagnosis^{1,6,7}

Patients with type 1 diabetes usually present with acute symptoms. Symptoms are polyuria, polydipsia and unexplained weight loss. Type 2 diabetes usually is detected when present with complications or during routine examination.

Diagnosis of DM is made in non pregnant adults from symptoms + high blood glucose [Fasting blood glucose (FBG) >7.0 or >126 mg%; Random blood glucose (RBG) >11.0 or >200 mg %] + urine glucose or ketone bodies.

Oral glucose tolerance test (OGTT) is done when RBG is between 7.0-11.0 mmol/L.

Glycated haemoglobin A1c (HbA1c) is not used for diagnostic purpose.

Investigation

Investigations are done for diagnosis^{1,6,7} as well as to find out complications.

For diagnosis

FBG, RBG, Urine for sugar and ketone bodies, OGTT.

For complications

Urine for albumin, Urea, creatinine, electrolytes, Lipid profile, SGPT, serum total protein, albumin, ECG, CXR PA view.

1. **Dr. Md. Raziur Rahman**, MBBS, MD (Internal Medicine)
Resident Physician and Assistant Professor of Medicine
BIRDEM Hospital, Dhaka.
2. **Dr. Md. Rawshan Ali Basunia**, MBBS, MD (Internal Medicine)
Assistant Professor of ICU, BIRDEM Hospital, Dhaka.
3. **Dr. M. M. Zahurul Alam Khan**, MBBS (Dh), FCPS (M) MD (Cardiology)
Assistant Professor of Cardiology, BIRDEM Hospital, Dhaka.
4. **Dr. Dipankar Chandra Nag**, MBBS, MD (Cardiology)
Assistant Professor of Cardiology, Dhaka National Medical College, Dhaka

During follow up

Fasting blood glucose, Blood glucose 2 hrs after breakfast, HbA1c, TG, Chol, Urea, creatinine, electrolytes, Urine for sugar, acetone, albumin, SGPT.

Complications

Retinopathy and nephropathy occur earlier. Cardiovascular complications (MI, CVD) are usually the presenting problems for NIDDM. But serious of all are diabetic ketoacidosis (DKA) and hyperosmolar non ketotic coma (HONC) which may occur any time during the course of disease due to negligence of not taking insulin for long time. Electrolyte imbalance is also frequently encountered.

Management

Aim of treatment is to lower blood glucose level and at the same time to prevent and treat complications if any. So we should treat the whole patient not the blood glucose level only. Treatment includes diet alone, diet and OHA or diet and insulin or combination of all.

Exercise is very important both for IDDM and NIDDM and example of effective exercise is brisk walking for 30 minutes⁸. Exercise alone in type 2 DM is seldom worth enough to lower blood sugar level. UKPDS³ showed that introduction of OHA from the very beginning of treatment is better than simple dietary and life style modification which is aimed at weight loss. Second generation sulfonylurea specially glibenclamide is still the best drug and it is cheaper also. But it should be given cautiously to elderly patients and better to avoid over 70 years^{1,6}. Gliclazide in modified release form is also a good choice but it is expensive. Metformine is the choice for obese type 2 DM. But most of the time combination of OHA is necessary. When OHA fail to achieve target blood glucose level insulin is administered with or without OHA.

OHA whatever it is should be started always with smallest and once daily dose. Then increasing the dose according to blood glucose level. Blood glucose in the form of FBG or ABF can be done at an interval of 1-2 weeks till appropriate dose is achieved then FBG or ABF can be done at 3/6 months interval.

If blood sugar at diagnosis or any time during treatment is very high eg. FBS > 15.0 mmol / L in NIDDM it is better to start insulin to give rest to β cells. If blood sugar level is at a lower level but there is complication eg. proteinuria it is again better to start insulin. For IDDM and in stressful condition insulin is used. Insulin may be given by two ways. One is per kg body weight (BW) (0.03 -0.04 iu / kg BW). The other is trial and error basis, starting from lower dose to higher dose gradually. Two third of total insulin is given in the morning and one third in the evening. If short and long acting insulin combination is used one third of total insulin is taken as short acting and two third long acting¹.

It is a common observation that if a diabetic patient goes to a general practitioner (GP) that GP refuses to treat him. There is nothing to be scared to treat a diabetic patient. The stress of illness, trauma, and / or surgery frequently aggravates glycemic control and may precipitate DKA and HONC⁹. Any condition leading to deterioration in glycemic control necessitates more frequent monitoring of blood glucose and urine or blood ketones. A vomiting illness accompanied by ketosis may

indicate DKA⁹. Aggressive glycemic control with insulin reduces morbidity in patients with severe acute illness¹⁰.

If a diabetic patient develops blood pressure $\geq 140/90$ mmHg he/she should receive antihypertensive. Patients with diabetes and hypertension should receive a regimen that includes an ACE inhibitor.

Education

It is essential for the diabetic patient to learn to handle all aspects of their management. Diabetes education can be provided as out patient basis. Education consists of :

- Performing capillary blood glucose estimations.
- Test for urine ketone bodies.
- Keeping records of the results of blood and urine tests and to understand their significance.
- Learn to measure dose of insulin, to give their own injection, and to adjust doses themselves.
- Learn symptoms of hypoglycemia.

Follow up

Frequency of visits is very variable ranging from weekly during pregnancy to annually in well controlled type 2 DM.

Check list^{1,6}

for follow up of patients with DM:

History

Hypoglycaemic episodes, Extreme weakness (electrolyte imbalance), Chest pain, Vision problem.

Examination

Body weight, Pulse, BP (supine & erect), Heart, lungs, Lower-limb: ADP, ankle jerk, vibration sense, ulcer, Fundoscopy.

Investigations

As above

Targets to achieve¹¹

- FBG - 90-130 mg / dl; 5.0-7.2 mmol / L
- PPBG - <180 mg / dl; <10.0 mmol / L
- HbA1c - <7.0 %
- LDL - < 100 mg / dl; < 2.6 mmol /L

- TG - < 150 mg /dl; < 1.7 mmol /L
- HDL - > 40 mg / dl; > 1.1 mmol / L
- BP - < 130/ 80 mmHg

Conclusion

Diabetes is of course a complicated disease. But there is always easy ways. So physician must not be scared of treating a diabetic patient.

References

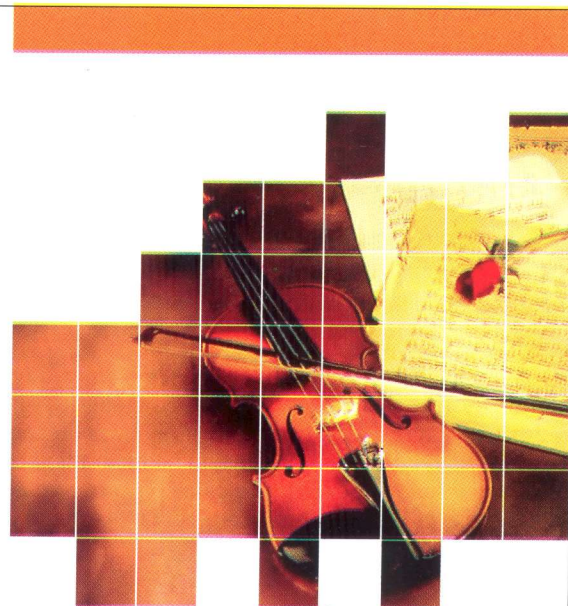
1. Frier BM, Fisher BM. Diabetes Mellitus. In: Haslett C, Chilvers ER, Boon NA, Colledge NR, editors. Davidson's Principles and Practice of Medicine, 19th edition. Edinburgh: Churchill Livingstone; p 642-682, 2002.
2. American Diabetes Association: ADA guideline. Diabetes care 28: (suppl. 1); S37, 2005.
3. Turner RC, Cull CA, Frighi V, Holman RR. - Glycaemic control with diet, sulfonylurea, metformin or insulin in patients with type 2 diabetes mellitus: progressive requirement for multiple therapies (UKPDS 49). JAMA 281: 2005-2012, 1999.
4. Expert Committee on the Diagnosis and Classification of Diabetes Mellitus: Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Diabetes Care 20: 1183-1197, 1997
5. Expert Committee on the Diagnosis and Classification of Diabetes Mellitus: Follow-up report on the diagnosis of diabetes mellitus. Diabetes care 26: 3160-3167, 2003.
6. Frier BM. Diabetes mellitus. In: Haslett C, Chilvers ER, Hunter JAA, Boon NA, editors. Davidson's Principles and Practice of Medicine, 18th edition. Edinburgh: Churchill Livingstone: 471-509, 1999
7. American Diabetes Association: ADA guideline. Diabetes care 28: (suppl. 1); S5, 2005.
8. Tuomilehto J, Lindstrom J, Eriksson JG, Valle TT, Hamalainen H, Ilanne-Parikka P, Keinanen-Kiukkaanniemi S, Laakso M, Luoharanta A, Rastas M, Salminen V, Uusitupa M: Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. N Engl J Med 344: 1343 - 1350, 2001.
9. American Diabetes Association: Hyperglycemic crises in diabetes. Diabetes Care 27 (suppl. 1): S94 - S102, 2004.
10. Van den Berghe GH, Wouters P, Weekers F, Verwaest C, Bruyninckx F, Schetz M, Vlasselaers D, Ferdinande P, Lauwers P, Bouillon R: Intensive insulin therapy in the critically ill patients. N Engl J Med 345: 1359 - 1367; 2001.
11. Sacks DB, Bruns DE, Goldstein DE, Maclaren NK, McDonald JM, Parrott M: Guidelines and recommendations for laboratory analysis in the diagnosis and management of diabetes mellitus. Clin Chem 48:436-472, 2002.

Oclazid

Gliclazide BP 80 mg

diabetic
Brings back harmony in life

 **ORION**
LABORATORIES LTD.
In Search of Excellence



Health consequences of obesity

Rashid MA¹, Chowdhury MZ², Saha BC³

The ORION 2005 ; 22 : 298-299

Obesity is defined as body mass index (BMI = weight in kg divided by height in meters squared) of 30 kg per square meter or more and considered as a chronic disease that affect a significant number of persons and requiring continuous care. Obesity is associated with significant increase in morbidity and mortality and it increases in proportion to the degree of obesity in young & middle aged adults. Morbidly obese individuals (> 200% ideal body wt.) have as much as 12 fold increase in mortality. Again it has also relation with distribution of body fat. Central or visceral-abdominal obesity (apple-shaped) is associated with substantially different metabolic profiles and cardio-vascular risk factors than gluteal-femoral obesity (pear-shaped). This distinction is made by determining the waist-to-hip ratio, with a ratio > 0.9 in women and > 1.0 in men being abnormal. The mechanism underlying this association is unknown but may relate to the fact that intra-abdominal adiposities are more lipolytically active than those from other depots. Release of FFA into the portal circulation has adverse metabolic action. However the relative risk associated with obesity, decreases with age.

It is difficult to be certain about the causal link between diseases and body fat. These relationships are confounded by the many metabolic & hormonal alterations that either contribute to or derive from excess adiposity. The specific mechanism by which body fat promotes adverse outcomes is not always known. This will be a critical task for future research.

Common disorders of obesity

- DM Type 2
- Cardiovascular diseases
- Dyslipidaemia
- Respiratory disorders
- Neurological complication
- Joints disorders
- Psychosocial
- Reproductive disorders
- Complications of pregnancy
- GI disorders
- Cutaneous problems
- Cancer
- Procedural hazards

DM Type 2

Hyperinsulinaemia and insulin resistance are pervasive features of obesity. The molecular link between obesity and insulin resistance may be due to insulin itself by inducing receptor down regulation, increase FFA by inhibiting insulin action or by inhibiting insulin secretion by cytokine TNF- α from adiposities. Relative risk of DM type 2 is increased 3 to 4 fold in

overweight and 13 to 18 fold in class III obese aged 55. Even in children and teenagers, majority of childhood diabetics are overweight, not ketosis prone and lacking immunologic markers of DM type 1.

Cardiovascular diseases

The Framingham study revealed that obesity was an independent risk factor of cardiovascular diseases which includes-

Coronary artery disease (CAD)

A high BMI is significantly associated with development of myocardial infarction, coronary insufficiency and sudden death. Over weight individuals presents a cluster of other traditional and nontraditional risk factors e.g. dyslipidaemia, HTN, DM, prothrombic state, hyperinsulinemia, hypertriglyceridemia and elevated apoprotein B and C-reactive protein. The detrimental impact of over weight or obesity as a risk factor of CAD involves multiple mechanisms that accompany the obese state.

Hypertension

It is about six times more in obese than in lean subjects. Risk estimates from population studies suggest that 75% of hypertension can be directly attributed to obesity. The precise mechanisms of hypertension related to obesity are not fully understood.

Other cardiovascular disease includes

Congestive heart failure, Left ventricular diastolic dysfunction, Left ventricular hypertrophy, arrhythmia, Cardiomyopathy of obesity (Adipositas Cordis).

Dyslipidaemia

Obesity has strong effect on lipoprotein metabolism which includes- high level of TG, elevated LDL-C, low HDL-C.

Respiratory disorders

Includes alveolar hypoventilation (PICKWICKIAN SYNDROME) and sleep apnoea which may leads to increased risk of diurnal hypertension, nocturnal dysrhythmias, pulmonary hypertension, right and left ventricular failure.

Neurological complications

Stroke and Alzheimer's type of dementia are often seen.

Reproductive disorders

In men obesity is associated with reduced plasma testosterone, reduced sex hormone binding globulin (SHBG), elevated estrogen level and gynaecomastia. Increased androgen production, decreased SHBG, increased peripheral conversion of androgen to estrogen, polycystic ovarian syndrome (PCOS) is seen in obese women.

Complications of pregnancy

Gestational diabetes, gestational hypertension and pre-eclampsia is common in obese pregnant woman.

GI diseases

There is increased chance of NASH (Non Alcoholic Steatotic Hepatitis), reflux esophagitis and gall stone disease which is due to enhanced biliary secretion of cholesterol leading to super saturation of bile.

Cancer

Obesity in males is associated with cancer of the colon, rectum & prostate and in female cancer of the gall bladder, bile duct, endometrium, cervix and ovary. Other disorders associated with obesity are osteoarthritis, gout, acanthosis nigricans, friable skin, venous stasis, hernia and depressive illness.

1. **Dr.M.A. Rashid**, MBBS, FWHO, D. Card
Associate Professor, Ibrahim Cardiac Hospital & Research Institute
2. **Dr.Mashhud Zia Chowdhury**, MBBS, DTCD, MD (Cardiology)
Registrar, Ibrahim Cardiac Hospital & Research Institute
3. **Dr.Bikash Chandra Saha**, MBBS, D. Card
Registrar, Ibrahim Cardiac Hospital & Research Institute

Procedural hazards*Limit accuracy of physical examination*

- Peripheral pulses
- Blood pressure

ECG

- HR & PR interval: increased
- QRS voltage: decreased
- QRS axis deviation to the left
- False positive criteria of inferior MI
- Non-specific flattening of T waves in infero-lateral leads

X-Ray Chest

- Elevated diaphragm.
- Widened heart in transverse diameter

Echocardiogram (TTE)

- Poor window

Cardiac catheterization

- Difficult access to the femoral vessel
- Difficult homeostasis

*Risk factor for perioperative morbidity & mortality.***Conclusion**

Viewing all these consequences, obesity is a major problem for both patient and physician as well as a social problem too. Successful management of obese patient requires multiple treatment strategies including modification of lifestyle and pharmacological treatment.

References

1. Eckel RH, Poirier P, 2001, The heart and obesity. In: Fuster V, Alexander RW, O'Rourke RA (eds). *Hurst's The Heart*, 10th edition. New York, Mc-Graw-Hill Company, PP. 2289-2303.
2. Frier BM, Truswell AS, Shepherd J, Looy AD, Jung R. 2002, Diabetes mellitus and nutritional and metabolic disorders. In: Haslett C, Chilvers ER, Hunter JAA, Boon NA (eds). *Davidson's Principles and Practice of Medicine*, 19th edition. Edinburgh, Churchill Livingstone, PP. 301-306.
3. Hellerstein MK. & Parks EJ, Obesity & Overweight. In Greenspan FS & Gardner DG (eds). In: *Basic & Clinical Endocrinology*, 7th edition, Mc. Graw-Hill, New York, PP. 794-813.
4. Kissebah AH, Freedman DS, Peiris AN, 1989, Health Risks of obesity. In: *The medical clinics of North America*. Philadelphia, W. B. Saunders Company, PP. 111-138.

Health Tips

Diabetics, eat healthy

If you have diabetes, healthy eating should be an integral part of managing your disease. A good diet can help control your weight and blood sugar level:

- Use vegetable spray instead of oil, shortening, or butter.
- Steam vegetables using a low-fat broth or water.
- Season foods with herbs and spices, vinegar, lemon juice, or salsa.
- Use low or sugar-free jams instead of butter or margarine.
- Use low-fat or fat-free cottage cheese, or nonfat yoghurt.
- Eat chicken or turkey without the skin.
- Buy only lean meats and broil, roast, stir-fry or grill them.
- Use canola or olive oil rather than vegetable oils.
- Buy whole-grain breads and cereals.

If you've got something in your eye

When a particle of dust or other foreign object gets stuck in your eye, don't rub your eye, advises the British Columbia Ministry of Health. This could scratch the cornea. Here's what you should do :

- If you wear contact lenses, take them out before trying to remove the object.
- If the particle is over the dark center or colored part of your eye, try gently flushing it out with water. If it doesn't come out, put on dark glasses and get medical help.
- If the object is on the white part of your eye or inside the lower lid, use a moistened tissue to gently remove it.
- If it is stuck or embedded in the eyeball, cover your eye lightly with a clean dressing and get immediate medical help.

Keep good posture

Correct sitting and standing posture can help prevent back strain, according to the American Academy of Family Physicians. When it comes to sitting:

- Sit in chairs with straight backs or low-back support.
- Keep your knees a little higher than your hips. Adjust the seat or use a low stool to prop your feet on.
- While driving, sit straight and move the seat forward. And here are some standing suggestions:
- When standing for a long period, rest one foot on a low stool to relieve pressure on your lower back.
- Switch the foot you're resting on the stool every five to 15 minutes.
- Keep your ears, shoulders and hips in a straight line, with your head up and your stomach pulled in.

Coping with hair loss

Alopecia, the medical term for hair loss, typically is permanent and can be attributed to heredity. While some people prefer to let baldness run its course, others may opt for one of the medications and surgical procedures that are available to treat baldness. *These may include:*

- Medications to promote hair growth, such as minoxidil and finasteride.
- Corticosteroid injections.
- Hair transplants.
- Scalp reduction.
- Skin lifts and grafts.

Breast-feeding is best

A mother's milk has just the right amounts of fat, sugar, water and protein needed for a baby's growth and development, according to the U.S. Department of Health and Human Services. Most babies find it easier to digest breast milk than formula. Breast milk also includes antibodies to help protect infants from bacteria and viruses. And breast-feeding helps a mother bond with her baby. In addition, nursing uses up extra calories, making it easier to lose the pounds gained from pregnancy. If possible, the U.S. Surgeon General recommends that babies be fed with breast milk only for the first six months of life.

Is Your Baby Colicky?

If your baby is crying a lot, you should call your doctor. If the doctor finds no underlying medical cause, he will probably tell you that your baby has colic. Colic does not have any lasting effects on the child in later life. It usually starts to improve at about 6 weeks of age, and is generally gone by the time your baby is 12 weeks old. In the meantime, try these techniques from the University of Michigan Health System:

- Respond consistently to your baby's cries. Check to see if she's hungry, tired, in pain, too hot or cold, bored, overstimulated, or in need of a diaper change.
- Some parents find that carrying their baby more frequently lessens colic.
- Rock your baby or play music and dance.
- Change formula, but talk with your baby's doctor first.
- Talk a walk with your baby in the stroller, or take a ride in the car.
- Nurse your baby every two to three hours if you are breast-feeding.
- Don't allow anyone to smoke around your baby. Babies of smokers cry more and also get sick more often.

Ischemic factor, medical and surgical treatment for neuroprotection in glaucoma

Biswas SK¹

The ORION 2005 ; 22 : 300-301

Introduction

Glaucoma is a multifactorial disease, resulting in a particular type of structural and functional damage to the optic nerve. From 1858, mechanical and ischemic factors are considered as more significant. Medical therapy, laser surgery and microsurgery became we can say able to control intraocular pressure. But up to day, measures against ischemic factor are very poor though we know that-

1. Moderately raised intraocular pressure (IOP) does not develop optic nerve atrophy during 5-25 years of follow up period. Patients having raised IOP without any glaucomatic change in the optic nerve using IOP lowering agents during 5 years of follow up period 4.4% were affected. On the other hand, those who were without medicaments 9.5% were affected with glaucoma.
2. 50% of glaucoma patients having normal IOP. Typical glaucomatic changes of the optic nerve head and field of vision can be developed and progress in normal tension glaucoma.
3. Increasing of the deficit of ocular blood supply is proportional to the development of primary open angle glaucoma (POAG).
4. Normalization of IOP does not always stabilize the condition of optic nerve head (ONH) and visual functions of the patients.
5. General hypotension accelerates the arising and progression of glaucomatic excavation of ONH.
6. In experiments, ischemia of the ONH leads to a blockage of axoplasmic circulation in optic nerve fibers as increased IOP influences over them.
7. Probably the mechanism of autoregulation in ONH is incomplete. Because nutrition of ONH occurs through choroidal vessels, having no autoregulation.
8. Angiography shows the deterioration of blood circulation in ONH of glaucomatic patients with normal IOP.
9. Treatment leading to improve blood circulation of the eyeball and ONH is helpful to stabilize glaucomatic process.
10. The word 'low target pressure' is now very popular. But actually it varies from person to person. Some how if it is achieved we do not know how long it will exist as tolerable.
11. In ischemia, glutamate is released which causes activation of NMDA receptors exist on ganglion cells and subset of amacrine cells resulting in the influx of calcium in cells and the generation of free radicals and thus causes ganglion cell death. Elevated glutamate levels exist in the vitreous humor of patients with glaucoma and NMDA receptors exist on ganglion cells.

So management of glaucoma includes controlling of IOP in a reasonable level as well as neuroprotection.

Medical therapy for neuroprotection: In order to stabilize glaucomatic process by ocular hypotensive drugs, many

1. **Dr. Sushanta Kumar Biswas**, MD, FCPS, PhD
Ex-consultant Surgeon
Magura Eye Hospital, Magura

authors prescribe preparates, which improve ocular blood circulation as a whole and ONH.

1. *No-spa*: Improves choroidal blood circulation which is correlated with broadening of visual field, arterial pressure decreases a mean value of 10 mm Hg. No-spa in combination with Proserin causes a favourable influence over the course of glaucomatic process.

2. *Tablet Cavinton* is used in unstable glaucoma. It has a high vasodilating influence on intraocular vessels because of which it improves light sensitivity, broadens field of vision of some patients with glaucoma. Cavinton does not increase IOP, So it can be used either in normal IOP or in moderate increase of IOP. It influence a little on systemic arterial pressure. A combination of Cavinton, Trental and Riboxin increases the effectivity of the treatment of glaucoma.

3. *Trental* is widely adopted to improve microcirculation and haemodynamics in glaucoma by increasing deformability of erythrocytes decreasing viscosity of blood, preventing adhesion and aggregation of thrombocytes. Trental has a moderate vasodilating effect without changing systemic arterial pressure. It broadens visual field, improves light sensitivity and increase rheographic co-efficient.

One should consider that the vasodilators cause generalised vasodilation leading to the reduction of systemic arterial pressure and thus decrease intraocular blood supply due to the reduction of perfusion pressure. It is proved that in case of decreasing arterial pressure not more than 10%, ocular blood supply is increased by vasodilators and was not reduced even in a single case.

Surgical Methods of treatment of glaucomatic optic nerve atrophy

All methods of surgical treatment of glaucomatic optic nerve atrophy are divided in 4 groups.

1. Redistribution methods of blood supply in ocular region

Tying of external carotid artery has some drawbacks.

- a) Increasing of blood volume in the system of internal carotid artery can cause a rupture of it's branches which had a sclerotic change.
- b) Angiographic investigation is risky for the patients over 60 years old before surgery.
- c) The operation is contraindicated to those who has a pathological change in internal carotid artery.

Intersection of facial branches of ocular artery-frontal, supraorbital and branches of external carotid artery-angular artery. 8 years follow up period of 15 patients confirmed the possibility of improvement and stabilization of visual functions of those who have different vascular pathologies of the eye. Indications of vasoreconstructive surgery is defined by ultrasonic dopplerography. It is indicated to only 56.2% cases.

2. Methods of incision of durameter and scleral canal of the optic nerve.

- a) Parabulbar way which may cause serious damage of retinal and optic nerve blood circulation.
- b) Transvitreal and extraocular approach to the optic nerve. In the first method, at the meridian of 10 or 2 o'clock 5 mm

from the limb, scalpel Sato was inserted through the incision and made a dissection of scleral ring at the region without vessels of 1mm depth. Extra ocular approach to the optic nerve is more safe and simple. After an incision of the conjunctiva in internal angular region of the eye and cutting the internal rectus muscle, the authors turn the eyeball outwards and by the scalpel Sato made dissection on the scleral ring up to 4 mm with 1mm depth. The results of analysis of the materials of 32 patients is that visual acuity (VA) increased in 17 patients, field of vision broadened in 31 cases, 8 of them did not have central field of vision before treatment. Field of vision was broadened basically in temporal and lower nasal quadrants. This effect is connected with the fact that scleral canal and lamina cribrosa are the main points of optic nerve fiber damage where the nerve fibers and central ocular vessels are very compactly arranged.

3. Revascularization methods of posterior segment of the eyeball
Donor's scleral band and pieces of patient's tenon were inserted to the posterior segment of the eyeball, in addition to the sclera, 12-18 mm from the limb diathermocoagulation was applied. It helps formation of collaterals between the internal and external carotid systems and thinning of the sclera and appearing of new vessels. Improvement and stabilization of visual functions were found in most of the patients with glaucoma. Thus combined antiglaucomatous tropic operations (CATO) was also resultative. Medial third of superior or external rectus muscle was transplanted under sclera of the patient with far advanced glaucoma. Stabilization was achieved in majority of the patients of a 3-6 years follow up period. The mentioned method was combined with sinusotrabeculectomy in far advanced glaucoma. In contrast to the above method, part of external rectus muscle of 1/3 width was inserted to the intrascleral tunnel leading to the posterior pole of the eyeball was done on 16 mm from the limb by 10-12 incision. Six months follow up period of 48 cases after operation, showed it's appreciably to sinusotrabeculectomy.

4. Subtenon implantation of collagenous infusion system (SICIS)
Nesterov A.P. and Basinsky S.N. at first proposed this operation. Infusion of drugs 2 times a day for 6-8 days helps to create a constant concentration of drugs in the region of posterior segment of the eye ball and optic nerve head and achieve positive effect. *Technic of surgery:* A collagenous sponge implant slice of 30 x 5 mm is prepared. The slice is moistened in isotonic solution of NaCl folded and made a pore where it was bended. Through the pore a plastic tube is inserted and by a stitch, it is fixed to the sponge. Length of the tube 10-11 mm, diameter 1.5 mm. Free end of the tube is closed by a cork. After local anaesthesia in the upper lateral or medial quadrant of the eyeball made an incision on conjunctiva and subtenon capsule with a length of 6-7 mm, 6-7 mm from the limb. With the help of palette-knife a canal is formed in the subtenon space towards optic nerve. Implanting sponge with tube was inserted by a bent forceps following the curvature of the eye ball through the formed canal to it's posterior segment. Continuous stitch was done on the conjunctiva and tenon capsule. The free end of the plastic tube was turned to the forehead and fixed by leucoplast. *Medicaments used:* Xantinol nicotinatis 15%-0.3 ml. Trental 2%-0.3ml and Dexamethason 4%-0.2ml. The tube is removed after course of treatment. Collagenous sponge is absorbed in a period of 1-1.5 month. Mean VA before SICIS was 0.33, after 0.47, which was the same after 4-5 months. During the whole follow up period VA was 42.4% more than it's initial value. Visual acuity was increased in 15 eyes (78.9%) from 19 after SICIS and after 4-5 months in 15 eyes (88%) from 17 investigated patients VA was improved more and in 2 cases VA was decreased up to initial value.

SICIS caused a significant change in VF. Mean sum of degrees in 8 radius before operation was 201 (66-252), after operation and treatment 250 (78-298) i.e. this value was increased up to 24.3% from initial value which was not changed up 4-5 months. VF was improved in 17 cases of 19 eyes (89.5%). After 4-5 months, in 15 cases (88.2%) of 17 investigated eyes VF was not changed and in 2 cases, it decreased up to initial value.

References

- Osborne N.N., Ugarte M. et al. Neuroprotection in relation to Retinal ischemia and relevance to Glaucoma. Survey of ophthalmology, Vol 43 (Suppl 1): S 102. 1999.
- Nesterov A.P. Primary Glaucoma. 2nd ed. 1982., p. 287.
- Hayreh S.S. The pathogenesis of cupping of the optic disc. Br. J Ophthalm. 1974; 58:863-876.
- Morgan RW Open angle glaucoma. An epidemiologists view. CanJ. Ophthalm. 1972;7:75-79.
- Feodorov SN. Pathogenesis of primary glaucoma. Questions of pathogenesis and treatment of Glaucoma. M1980;3-5.
- Laatikainen L P, Mantyla P. Effects of a fall in the intraocular pressure level on the peripapillary fluorescein angiogram in chronic open angle glaucoma. Acta. Ophthalm. 1974. v.52.n.5:625-639.
- Jonas JB, Fernandes MC, Naumann GO. Glaucomatous peripapillary atrophy, occurrence and correlations. Arch. Ophthalm. 1992, 110 (2):14-222.
- Leighton DA, Phillips C I. Systemic blood pressure in open angle glaucoma, Low tension glaucoma and the normal eye. BrJ ophthalm 1972; 56:447-453.
- Hayreh S S, March W. and Anderson DR. Pathogenesis of block of rapid orthograde axonal transport by elevated intraocular pressure. In glaucoma up date (ed. Kriegelstein GR and Leydhecker W.) 1979p. 119-125. Berlin.
- Anderson DR. Adler's physiology of the eye, clinical application. ed. Robert A. Moses William M Hart. Jr. 1987, p493-495.
- Hayreh SS. The pathogenesis of cupping of the optic disc. Br.J.Ophthalm 1974.n.58p863-876.
- Hayreh SS., Walker WM. Fluorescent fundus angiography in glaucoma. Amer. J.Ophthalm. 1967.n63p.982.
- Begg I.S. Drance SM. Goldmann H. Fluorescein angiography in the evaluation of focal circulatory ischemia of the optic nerve head in relation to the arcuate scotoma in glaucoma. Canad. J Ophthalm. 1972.v7.p.68.
- Feodorov SN. Shilkin GA. Iophe et. al. Results of dissection of superficial temporal artery in damage of neurovascular apparatus of Vestnik ophthalm 1987.n5.p42-45.
- Basinsky SN. Change of hydrodynamics of patients with primary open angle glaucoma and it's correction. Abstract of the thesis for D.Sc. Moscow-1991 p.39.
- Oleinichenko MA. Influence of vasodilators-No-spa and papaverine on eye. Theses. M-1968.p150-152.
- Katsnelson LA. Rheoophthalmography. Thesis for a D.Sc. M-1968.p.30.
- Astahov Yu.S. Loginov GI. About regional application of vasodilative preperates in open angle glaucoma. L-1989. p11.
- Egorov EA, Svirin A, Pujakov VP. Application of cavinton in the complex treatment of glaucoma and some other eye diseases. New preperates used in ophthalmology M1978.p62-64.
- Konde LA, Iakovlev AA. Experience of application of Cavinton in therapy of Glaucoma. M-1984.p.59-61.
- Bunin A.I. et al. Ophthalmosphigmography as a method of investigation of haemodynamics of eye. Vestnik ophthalm. 1984.n61-62.
- Konde LA. Influence of Trental on visual functions and blood supply of eye of the patients with primary open angle glaucoma. M1985.p.7.MH USSR.n10232.
- Bunin AI, Konde LA. About critical level of systemic arterial pressure for applications of vasodilators to patients with glaucoma. Vestnik ophthalm. 1983.n3p17-20.
- Cristini G. Kamarazz R. Rivascolarizzazione del nervo ottico nel glaucomatoso mediante dilla portata circolatoria dell oftalmica e suo indicazione terapeutica. Rev otoneuro-oftal 1968. v43.n2. p157-176.
- Shilkin G A. Korchagin V V. Direct results of vasoreconstructive surgery. Actual questions of up to date ophthalmosurgery, M1977, p128-130.
- Ivashina AN, Michailova GD, Balashova NV I ophe DN. Defining of indications and prognosis of the results of vasoreconstructive surgery with the help of materials of doplerographic investigations. M1986p9.MH USSR. n. 12142.
- Feodorov SN, Shilkin GA. Iophe DN. Results of dissection of superficial temporal artery in damage of neurovascular apparatus of eye. Vestnik ophthalm. 1987 n5. p42-45.
- Nesterov AP, Egorov EA. Clinical characteristics of glaucomatous optic nerve atrophy. Vestnik ophthalm. 1978.n1.p5-8.
- Schmireva VF, Krasnov MM, Mostpvoie P. Decompression surgery on optic nerve in glaucoma. Vestnik Ophthalm. 1989.n5.p8-12.
- Bélaiev VS. Surgery of cornea and sclera. 2nd ed M.Medicina. 1984.p144.
- Kurilina EM. Complex treatment of glaucoma in far advanced stage. Abstract of the thesis for a Ph.D. Odessa 1988.p16.
- Indeikin EN. Revascularization of choroidae in far advanced glaucoma. n6. p379-380. Ophthalm. J. 1980.
- Pankov OP. About some possibilities of improvement of haemodynamics of eye in far advanced glaucoma. Physiology and pathology of intracular pressure M1991p120-122.
- Basinsky SN. Change of hydrodynamics of patients with primary open angle glaucoma and it's correlation. Abstract of the thesis for D.Sc. Moscow 1991-p39.
- Nesterov AP, Basinsky SN. New methods of introduction of medical preperates to the posterior part of subtenon space. Vestnik ophthalm. 1978.n1.p5-8.
- John Thygesen et al. Ocular hypertension: To treat or not to treat-that is the question Eurotimes 2002. Sponsored by pharmacía ophthalmology.

Meningitis: An overview

Ekram ARMS¹, Hasan AMS², Hussain SM³, Ahmed I⁴, Rahman MF⁵

The ORION 2005 ; 22 : 302-304

Introduction

Meningitis is an inflammation of the **meninges**, the membranes that cover the brain and spinal cord. The inflammation is usually caused by bacteria or by viruses. Less common causes include fungi, protozoa, and other parasites. Sometimes certain medications, cancers, or other diseases can inflame the meninges, although such noninfectious cases of meningitis are much rare¹.

Acute meningitis is a medical emergency. Usually all these patients are hospitalized and empirically prompt intravenous broad spectrum antibiotics are started. Though signs of meningeal irritation are common in acute meningitis but these signs may be present in other diseases eg. sub-arachnoid haemorrhage, cervical spondylosis etc².

At least 30 countries have reported serious outbreaks of acute bacterial meningitis (ABM) in the recent years^{3,4}. The incidence of ABM is between 3 and 5 per 100,000 people per year and it causes a death toll of more than 2,000 per year even in the United States⁴. The case fatality rate in paediatric patients ranges from 10% to as high as 20% and it may be even upto 50% while that in adult is about 25% as found in a review of 493 episodes and permanent neurologic sequelae occur in approximately one-third to one-half of the survivors of ABM^{5,6,7,8,9,10,11}. Cases may relapse and recurrent and chronic meningitis also occur with profound neurologic disability and may be fatal if not successfully treated, especially tubercular meningitis (TBM).

Viral meningitis and/or meningo-encephalitis are also common CNS infections with an incidence of acute encephalitis between 3.5 to 7.4 cases per 100 patients per year and some 20,000 cases occur in the USA each year^{12,13}. The incidence is much higher in developing countries.

Bacterial meningitis occurs throughout the year with higher prevalence during the winter while viral infections are common during mid-summer¹⁴.

Relevant anatomy

The entire CNS is enclosed in the three layered membranes called the meninges comprising of i) the dura mater, ii) the arachnoid mater and iii) the pia mater and separated by two spaces i) the sub-dural space and ii) the sub-arachnoid space. The arachnoid mater invests the brain and at sites of entry of blood vessels through the sub-arachnoid space. Two internal carotid and two vertebral arteries carry the total blood supply of the brain. The blood vessels divide into numerous cortical and central branches within the cranium which pierce the surface of

the brain and supply its internal parts. There are tight junctions between capillary endothelial cells in the brain and between the epithelial cells in the choroid plexus which form the blood brain barrier (BBB). This BBB prevents passage of proteins and other molecules into brain substances from blood excepting water, CO₂ and O₂ and thus maintains the constancy of the environment of neurones. It (BBB) tends to break down at sites of irritation (inflammation, infection etc.) and allows entry of molecules including antibiotics into the brain tissue^{15,16}.

Causes of meningitis

1. Bacterial meningitis

- First 6 weeks of age
Gram negative bacilli(E. coli , Proteus sp), Group B-streptococci, Meningococci, Pneumococci Listeria monocytogenes etc.
- 6 weeks to 6 years of age
H. influenzae, Meningococci, Pneumococci etc.
- More than 6 years of age
Meningococci, Pneumococci etc.
- All ages
Mycobacterium tuberculosis

2. Viral meningitis

Enterovirus (Echo virus, Coxsackievirus, Poliovirus etc.), Mumps, Measles, Varicella zoster, Epstein Barr virus, Cytomegalovirus, Human immunodeficiency virus (HIV), Lymphocytic choriomeningitis virus, Herpes simplex virus etc.

3. Fungal meningitis

Cryptococcus neoformans, Histoplasma capsulatum, Candida albicans etc

4. Protozoal meningitis

Toxoplasma gondii¹⁷, Entamoeba histolytica¹⁸. Naegleria fowleri etc¹⁹, Cerebral malaria²⁰.

Pathophysiology

Inflammation of meninges is the basic pathology in producing the signs of meningeal irritation. The pathologic hallmark of ABM is an exudate in the sub-arachnoid space, where as perivascular lymphocytic infiltration as well as astrogliosis and gliosis are prominent findings in viral meningitis and /or meningo-encephalitis^{5,21}. Most bacterial meningitis are haematogenous in origin; only a few cases occur from trauma usually involving basal fracture. Bacterial IgA-protease plays vital role in invading host tissues. Later on SA space inflammation occurs and the resultant cytokines (eg. IL-1, TNF etc) impairs BBB. For viral infections haematogenous route is the commonest route, the other being peripheral intra-neuronal route. Olfactory tract may be one of the routes for Herpes simplex virus (HSV).

Following infection, there is inflammation of small and medium-sized subarachnoid blood vessels with leucocytic infiltration. Haemorrhagic cortical infarction as well as brain oedema (vasogenic, cytotoxic, interstitial or combined factors) occur with rise in intra-cranial pressure⁵. This increase in ICP may cause life-threatening cerebral herniation.

Clinical features

Meningitis occurs in people of all ages but is more common in the very young (infants and young children less than 5 years especially

1. **Prof. Dr. ARM Saifuddin Ekram**, MBBS, FCPS (Med), FACP (USA)
Professor And Head, Dept. of Medicine
Rajshahi Medical College & Hospital.
2. **Dr. AM Shafiqul Hasan**, MBBS, FCPS (Med)
Junior Consultant (Medicine), Atgharia Health Complex
Atgharia, Pabna.
3. **Dr. S M Hussain**, MBBS
Project Research Physician, ICDDR,B, Dhaka
4. **Prof. Ifteqher Ahmed**, MBBS, M.Phil (Microbiology)
Professor And Head, Dept. of Microbiology
Rajshahi Medical College.
5. **Prof. Md. Fazlur Rahman**, MBBS, M.Phil (Pathology)
Professor And Head, Dept. of Pathology, Principal
Rajshahi Medical College.

with diabetes mellitus, renal or adrenal insufficiency, hypoparathyroidism, or cystic fibrosis) and the elderly (people above age 60). Immunocompromised patients, diabetics, IV drug users, people having recent exposure to the disease, thalassemia major, dural defect (e.g. traumatic, surgical, congenital), bacterial endocarditis, ventriculo-peritoneal shunt, malignancy and some cranial congenital deformity are in greater risk than others²². Again crowding increases the risk of outbreak of meningococcal meningitis; on the other hand splenectomy and sickle cell disease increase the risk of meningitis secondary to encapsulated organism. The symptoms of meningitis vary and depend both on the age and on which bacterium or virus is causing the infection. The symptoms of viral meningitis are usually milder than those of bacterial meningitis. However, symptoms of bacterial and viral cases can be similar, particularly in the early stages of the disease. Some classical symptoms of meningitis include fever and chills, headache, lethargy, or irritability, neck pain and stiffness, vomiting, photophobia. Along with these others may also have seizures (30%-40% in children, 20%-30% in adults), focal neurologic symptom (including focal seizures), altered consciousness to unconsciousness. Some may complain of a prodromal upper respiratory tract infection.

Patients of meningitis have the signs of meningeal irritation; neck rigidity, Kernig's sign, Brudzinski's sign. Papilloedema is present in only one-third of the patients with raised intra-cranial pressure⁴. There may be focal neurologic signs that include isolated cranial nerve abnormalities (principally 3rd, 4th, 6th, 7th nerve palsy) in 10%-20% cases; associated with a dramatic increase in complications from lumbar puncture and portends a worse outcome². Extra cranial infection like sinusitis, otitis media, mastoiditis, pneumonia, urinary tract infection may be noted. Arthritis, nonblanching petechiae and cutaneous haemorrhage are seen classically with meningococcal meningitis; however, these also can occur with other bacterial and viral infection. Endotoxic shock with vascular collapse is characteristic of severe N. meningitidis infection¹. Altered mental status; from irritability to somnolence, delirium and coma are invariably found.

Newborns and infants with meningitis may lack the classical signs described above and simply be extremely irritable or lethargic. However, a baby who has meningitis may display something called paradoxical irritability - when picking up and rocking a child makes the child more distressed. This can be a sign of irritated meninges. Along with this anterior fontanelle may be bulged due to raised intra-cranial pressure.

Typhoid meningism

About 2% of the total patients of enteric fever may present with the features of meningism²³.

Recurrent Meningitis

A second episode of meningitis due to a different organism from the first one or due to the same organism occurring after more than 3 weeks after the completion of the treatment from the initial episode.

Chronic Meningitis

It is defined as the chronic inflammation of meninges (pia, arachnoid and dura maters) persisting for longer than 4 weeks associated with a persistent inflammatory response in the CSF (WBC count > 5 cells/mm³).

Investigation and diagnosis

The diagnosis of meningitis is based on a compatible clinical picture, but CSF study is critical to as well as essential in diagnosing it. CSF study includes macroscopic appearance, cytology, antigen testing, ELISA, PCR, free amino acid /free

fatty acid level by chromatography etc. Other tests include CT scan/MRI scan of brain, angiography, Widal test, chest skiagram, complete blood count, blood culture etc. Meningeal biopsy and histopathology may be required in selective cases of non-responder group or patients with abnormal brain scan.

Treatment

Treatment is given as early as possible. Before starting empirical treatment, CSF should be obtained and if lumbar puncture is to defer for CT scanning, blood samples should be collected. However, if rashes are seen and clinically meningococcal meningitis is suspected, specific treatment should be started without delay or even without trying to collect CSF since meningococci can be isolated from blood culture even few hours after antibiotic administration.

Current choice of treatment for acute pyogenic meningitis includes

Neonates	Ampicillin+Cefotaxime or Gentamicin
Infants	Ampicillin + Cefotaxime
Pre-school children	Cefotaxime
Older child & young adults	Penicillin G+Cefotaxime or Cefotaxime or Ceftriaxone alone ⁵ .
Older (>50 years)	Ampicillin + Cefotaxime or Ampicillin + Vancomycin ⁵ .

Dosages of drugs are as follows

- Ampicillin : 300 mg/Kg/day.
- Benzyl penicillin : 2.4 gm every 4 hourly.
- Ceftriaxone : 30-50mg Kg/day every 12 hourly.
- Cefotaxime : 30-50mg /Kg/day every 6 hourly.
- Chloramphenicol : 50mg/Kg /day in 4 divided doses.
- Gentamicin : 5-7mg/ kg/ day in 3 divided doses.
- Penicillin G : 0.6-1.0 mU (0.36-6gm) every 4 hourly.
- Vancomycin : 15mg /Kg every 8 hourly.

But in short, Ceftriaxone 2-4 gm intravenously can be given empirically in the adults. Treatment of viral meningitis and /or meningo-encephalitis is mainly supportive.

Treatment of Tubercular Meningitis

Isoniazid (INH), Pyrazinamide (PZA) and Ethionamide are freely distributed in the CSF. For first few months, Rifampicin, Ethambutol and Streptomycin are also distributed in the CSF. Tubercular meningitis is treated with anti-tubercular drugs for at least 9 months and usually includes Rifampicin, Isoniazid (INH) and Pyrazinamide (PZA).

Adjunctive therapy

- Short course dexamethasone (first 2- 4 days)
- Mannitol and /or glucorticoids to reduce ICP
- Lorazepam, phenytoin etc. to avoid epileptiform seizures.
- Plasmapheresis in patients with fulminant meningococcal infection etc.

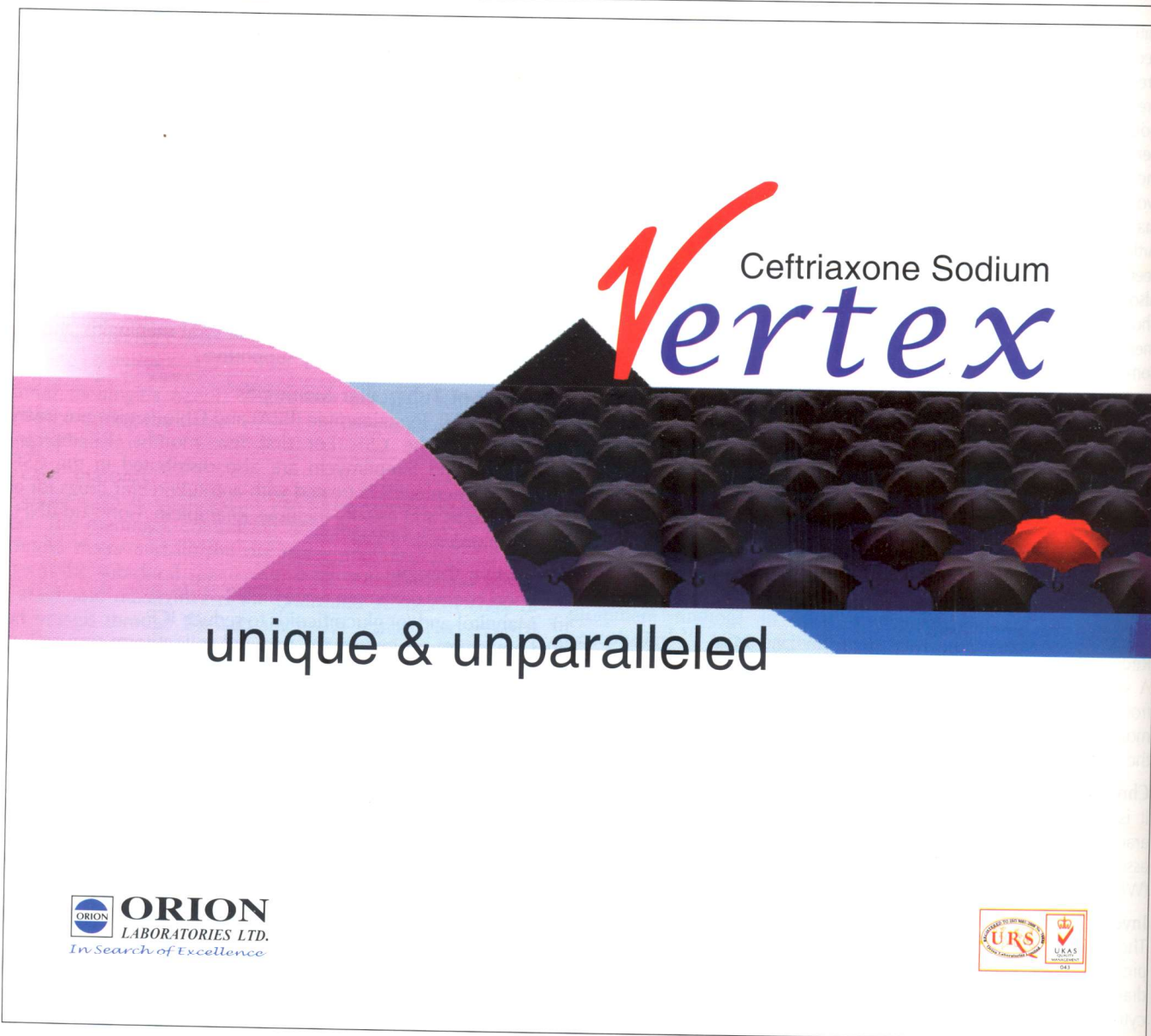
Prevention

Haemophilus influenzae type b vaccine (Hib vaccine) can be given to protect neonates as well as children. Vaccine against meningococcus A and B are available. Meningococcal contacts can be given prophylaxis with ciprofloxacin 750 mg daily for 2 days. Contacts of Haemophilus influenzae type b infection can be given ciprofloxacin 750 mg daily for 4 days.

References

- World Health Organization - Meningococcal meningitis - Fact sheet.
- Conolly KJ, Hammer SM. The acute aseptic meningitis syndrome. Infect Dis Clin North Am 1990; 4: 599-622
- Jacobs R A, Tierney L M Jr., McPhee S J, Maxine P A. General problems in infectious disease in Current Medical Diagnosis and Treatment 38th edn, Appleton & Lange USA, 1999; 1210.

4. Radetsky M. Duration of symptoms and outcome in bacterial meningitis: an analysis of causation and implications of a delay in diagnosis; *Pediatr Infect Dis J* 1992; 11: 694-698.
5. Scheld W M. Bacterial meningitis, brain abscess and other suppurative intracranial infections in Neurologic Disorders. In: Harrison's Principles of Internal Medicine: Fauci, Braunwald, Isselbacher, Wilson, Martin, Kasper et al; 4th edn; Mc Grow Hill Companies, New York; 1998: 2419-2434.
6. Quagliarello V, Scheld WM. Bacterial Meningitis: Pathogenesis, Pathophysiology and Progress: Review Article. *N Engl J Med* 1992; 12: 861-872.
7. Lebel M II, Freij B J, Syrogiannopoulos G A, Chrane D F, Hoy M J, Sunita R N, Stewart M, Kennard B D, Olsen K D, McCracken G H Jr. Dexamethasone Therapy for Bacterial Meningitis: Results of A Two Double-Blind Placeo Controlled Trial. *N Engl J Med*. 1988; 319(15) 964-971.
8. Kelen J O, Feigin R D, McCracken Gill, Jr, Report of the task force on diagnosis and management of meningitis. *Pediatrics* 1986; 78 (suppl) 959-982.
9. Rashid AKMM, Akbar MS. Effectiveness of dexamethasone in Clinical and CSF response in Acute Bacterial Meningitis of Bangladeshi Children.TAJ (Rajshahi) 1999; 12(2):15-19.
10. Durand M L, Calderwood S B, Weber D J, Muller S L., Suthwick F S, Cavinen V S Jr., Swartz M N. Acute Bacterial Meningitis In Adults : A Review of 493 Episodes. *N Engl J Med*. 1993; 328; 1: 21-28.
11. Pfister H W, Feiden W, Einhaupl K M . Spectrum of complications during bacterial meningitis in adults: results of a prospective clinical study. *Arch Neurol*. 1993; 50: 575-581.
12. Koroshetz W J, Swartz M N. Chronic And Recurrent Meningitis in Neurologic Disorders in Harrison's Principles of Internal Medicine. Fauci, Braunwald, Isselbacher, Wilson, Martin, Kasper et al; 14th edn; Mc Grow Hill Companies, New York. 1998; 2434-39.
13. Hauser N A, Beghi E, Kurland L T. Epidemiology of Central Nervous System Infection in Olmsted County, Minnesota. *J Infect Dis*. 1986; 154: 399-408.
14. Beghi E, Nicolosi A, Kurland LT, Mulder DW, Hauser WA, Shuster L. Encephalitis and Aseptic Meningitis, Olmsted County, Minnesota. *Ann Neurol* 1984; 16 : 283-294.
15. Spanos A, Harrell F E, Durack D T. Differential Diagnosis of Acute Meningitis: An Analysis of the predictive Value of Initial Observation. *J A M A* 1989;17(2):232-38.
16. Petter L, William B L, Berry M M, Collins P, Dyson M, Dussek J E. Gray's anatomy; 28th Edn. 1995; 1209-1218.
17. Chowdhury M R. Modern Medical Microbiology: 3rd ed.2000; 205.
18. Chatterjee K D. Parasitology (Protozoology And Helminthology) In Relation To Medicine 12th Ed. 1981, special reprint. 1997 ; 34.
19. Levinson W, Jawetz E. Medical Microbiology & Immunology. 4th ed. 1996; 283.
20. Faiz MA .Cerebral Malaria-A study on 29 cases. *Bang Med J* 1986; 15(4): 73-77.
21. Stephens D.S, Farley MM, Farley MM. Pathogenic Events during infection of the human nasopharynx with Neisseria meningitidis and Haemophilus influenzae. *Rev Infect Dis*1991; 13: 22-23.
22. Meningitis: www.uhseast.com.
23. Ahsan HAMN, Rafiqueuddin AKM, Chowdhury MAJ, Azhar MA, Merina A, Farazi M A. Complications of enteric fever in Medical Wards. *J Dhaka Med Coll*. 1993; 2 (2) : 32-33.



V

Ceftriaxone Sodium
Vertex

unique & unparalleled

ORION
LABORATORIES LTD.
In Search of Excellence

UKAS
URS

Concepts in sports medicine

Rahman MS¹

The ORION 2005 ; 22 : 305-306

Introduction

Sports is a form of exercise, which has got defined form and purpose and which usually implies competition. Medicine that is concerned with sport and sports related injuries is known as Sports Medicine. Sports bring personal and national reputations as well as provide physiological and psychological benefits on the person himself¹. Sports injuries may be caused by accidents or by overuse and do not necessarily differ from injuries sustained in non-sporting activities. Most sports injuries are minor and would not prevent average athletes from continuing his daily work, but as many people become more seriously committed to sporting activities, continuing daily work is no longer the only consideration. Those athletes who participate at championship level require not only correct diagnosis of their injuries but also complete healing so that they can continue to produce good performance with as short absence as possible from their sporting activities. To accomplish this tedious job emphasis must be given on the proper and adequate rehabilitation of injured athlete. It is usually the degree and quality of the rehabilitation that determine whether the athlete can safely and effectively return to competition².

Spectra of sports medicine

Sports medicine encompasses the following elements; Preparation and training, Prevention of injuries and illness, diagnosis and treatment of injuries and rehabilitation and return to active participation in sport activities.

Preparation and training

Preparation and training includes instruction in training methods, technique dietary requirements, the negative effects of drug and alcohol and psychological preparation for competition. A good conditioning achieved through, for example interval and endurance training program, is the basis of all sporting activities, though there are many other factors involved in creating a good athlete.

Strength training includes isometric exercise and different types of dynamic training. A good example of an effective dynamic strength training method, which has been developed in recent years, is isokinetic strength training in which muscles are made to work against accommodating resistance. Increased flexibility can be achieved by stretching exercise. Stretching exercise is a modern form of mobility training, which has proved to be very effective in preventing injuries to muscles, tendons and joints. General conditioning, strength and flexibility exercises are essential for all sports specific training and is aimed to improve skill in each sport. As sport become more demanding, correct technique in training is crucial if inadvertent overuse injury is to be avoided.

Dietary advice

Dietary advice is important because an athlete is to maintain a well balanced diet before, during and after practice and competition. Fluid and electrolyte loss must be compensated during and after exercise. Taking drugs that enhance performance of an athlete that is doping precludes the athlete from competition. Alcohol has deleterious effect upon performance for up to 48 hrs after consumption, which again

increases the risk of injury. Awareness of an athlete about diet, drug and alcohol is a part of preparation for sports.

Factors that provokes the sports injuries

There are some extrinsic factors that increase the risk of injury during sports. These include training errors, uncomfortable climate, improper nutrition and hydration, faulty equipment and non smooth playing field. Equipments used in sports can itself cause injury particularly if it is used incorrectly. Running on hard surface need shock absorbing shoes. Intrinsic factors include mal alignment, leg length discrepancy, poor flexibility, muscle weakness, muscle imbalance, and kinetic chain dysfunction etc³.

Sports and sport injuries

Long distance and prolong runner may develop, trochanteric bursitis, iliotibial band friction syndrome, Achillis tendonitis, planter fascitis, ankle sprain and patelofemoral pain are common to soccer, baseball and basketball player. Baseball, tennis, swimming, bowling in cricket predisposes to rotator cuff tendonitis. Golf, tennis and rowing are associated with epicondylitis and de quervains tenosynovitis. Weight lifting is commonly associated with acromioclavicular ligament sprain⁴.

Prevention of injury

Preventive exercise programme for the prevention of sports injuries are vital to all sports. The components of these programme are flexibility training, strength training, aerobic training, analysis of kinetic chain fuction and development of sports specific and higher level skills.

Flexibility training

The aims of flexibility training are to maintain and or improve joint mobility. This reduces the risk of the joints being subjected to great load at their outer limits. Good joint flexibility provides a safety margin. It prevents injury by coordinating the various parts of the musculoskeletal system to the special demands of a particular sport. Stretching is one of the methods of flexibility training in which the muscle is extended to its limits and then relaxed. Stretching is an excellent method of maintaining and increasing flexibility and should be used as a method of preventing injury and in rehabilitation. Flexibility Training is more effective if it is carried out when the muscle are adequately warmed up. Janda and associates have shown that tight & inflexible muscle can act like an effusion and have an inhibitory effect on antagonistic muscle group⁵. Noonan and Colleague have shown that stretching can increase the temperature of the tendon, which can have a protective effect via increased skeletal muscle tensile strength⁶.

Preventive strength training and aerobic training

Strength training is very much important for preventing injury because stronger muscle is able to absorb more tensile load and force before breakdown occurs either in the muscle itself or at the musculoskeletal junction. Aerobic exercise can be a key component of a preventive musculoskeletal exercise program. The cardiovascular protective effects of aerobic exercise are well known and for endurance athlete, aerobic exercise is essential in improving maximum oxygen uptake^{7,8,9,10}. Decreased muscular fatigue could lead to a decrease in the number of musculoskeletal injuries. Aerobic exercise could be an essential component of training to prevent early musculoskeletal

1. Dr. Md. Shahidur Rahman, MBBS, FCPS

Assistant Professor, Department of Physical Medicine and Rehabilitation
Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh.

fatigue. Generally endurance athletes use fats more efficiently and effectively during exercise and are able to spare glycogen¹¹.

Kinetic chain function and kinesiology

This is the sequence of movement of a particular motion. Defective biomechanics of movement can predispose to injury. For example shoulder pain in a Baseball pitcher can be treated but unless the biomechanics of throwing motions are analysed to ensure that kinetic chain function is normal, the problem will reappear. Understanding the kinesiology that is the science of joints and movement of sports and sports task is important for optimal performance and efficiency. Each sports places unique kinesiological and biomechanical stresses on the components of the kinetic chain that are involved in performing the sport¹². If training focuses on optimizing the mechanics of the sport, injuries may be prevented. Often a video camera recording can help delineate the components of the kinetic chain. A significant decrease in aerobic capacity can occur in as short time as 4 week of detraining¹².

Treatment and Rehabilitation of sports injury

General principle: For the treatment and rehabilitation of any sports injury first of all it is essential to assess the degree and nature of the injury. Before any treatment plan is made, it is important to see whether the injury is acute or sub acute, need surgical intervention or not. Subacute injury must be thought of as repetitive damage or to overuse of musculoskeletal system. After the assessment is complete, the patient needs relative rest. The principle of relative rest means that the injured part of the body is rested and protected from further trauma or injury. The remaining muscle mass should maintain optimal aerobic conditioning^{13,14}.

Pain relief and inflammation control

This should be achieved by "PRICE principle", therapy and medication. The break up of PRICE is protection, Relative rest, Ice, Compression and Elevation. Therapy means different physical modalities of heat, TENs etc. Concomitant use of analgesic and non-steroidal anti-inflammatory drugs will help ameliorate pain.

Flexibility and range of motion (ROM)

Muscles are mechanically most efficient when they can shorten and lengthen maximally. Restoration of full range of motion of a joint flexibility of adjoining muscle is indispensable for successful rehabilitation of injured athlete. ROM and flexibility exercise prevents formation of soft tissue contracture and provide proprioceptive joint and muscle feedback¹⁵. To achieve full ROM terminal stretching may be necessary after thermotherapy.

Strength training

It should begin after full or nearly full pain free motion is achieved. Strength that is gained in first few weeks is due to the neural effect, enhanced synchronization and recruitments of motor units¹⁶. Muscle hypertrophy does not occur until after 2 to 4 weeks or more of strengthening exercise¹⁷. The more efficient use of muscle provided by strengthening exercise has a positive effect on early return of function and performance.

Sport specific higher skills

Before a person returns to a sport after an injury or before participating in a sport, sport and position specific skills are performed with the greatest facility and dexterity. Athletes should work to regain optimal agility and coordination either after strength has been maximized or in tandem with strength training. Sale and McDodongall state that training should stimulate the movement patterns, velocity type and force of

contraction¹⁸. Thorough knowledge of an athlete's sport and kinesiological demand is essential in designing an appropriate rehabilitation program for return to sports. The ultimate goal is for an athlete to be at maximal strength and agility to maximize performance and to prevent recurrence of injury.

Proprioception

One of the new frontier in musculoskeletal medicine is the further development and expansion of knowledge about the afferent sensory pathway for movement and proprioception. In many injuries, a muscle tendon or ligament and a joint are 'detuned' and the proprioceptive feedback that the muscle or joint capsule normally provides is disrupted. Retraining of the dynamic stability is one of the essential factors in successful adaptation to injury. Research programs are currently underway to objectively delineate the neuromuscular gains achieved by a proprioceptively enriched rehabilitation program, such as the regular use of a wobble board for ankle sprain.

Conclusion

The treatment of most of the athletic injury is non-surgical, requiring the usage of common sense, medication, where needed and therapeutic exercise¹⁹. Rehabilitation of the athlete following injury or surgery is perhaps the most important aspect of treatment and constitutes one of the major focuses of sports medicine²⁰. Much of the sports medicine is indeed, rehabilitation. For optimal rehabilitation, athletes need the services of a multidisciplinary team that functions in an interdisciplinary manner. Caregivers must understand the anatomy biomechanisms, kinesiology and rehabilitation principles related to a particular sports. Physiatrists have the unique opportunity to provide care for musculo-skeletal injury. Technology tremendously developed in the recent years in the field of sports. Diagnosis and treatment in the field of sports is also developing. Sports and sports medicine is interrelated and with out development of the later, former cannot be improved. Bangladesh has high optimism for challenging competition in the world sports. Sports medicine can complement these challenges and augment the potentiality.

References

- Peterson L, Restrom P, In eds same ; Sports injuries, their prevention and treatment; Martin Dunitz Ltd London, UK 1st edition 1986.
- Agre JC, Physiatry in Sports Medicine in Koltke FJ, Lehman JF eds, Krussen's handbook of Physical Medicine and Rehabilitation 4th ed 1990. Philadelphia WB Saunders Company p 1140-53.
- Laskowski ER, Concepts in sports medicine in Physical Medicine and Rehabilitation; Braddom R.L. W B Saunders Company Philadelphia 1st edition 1996 P 915-937.
- Press JM, Young JL, Sports Medicine IN PMER Secrets O Young B, Young MA. Steins SA, Hanley & Belfus. Philadelphia 1st edition 1996; P 449-454.
- Jand DH, Wojtylo EM, Haskin FM et al; A three phase analysis of prevention of recreational softball injuries Am J Sport Med 1990; 18: 632.
- Noonan TJ, Best TM, Seaber AV, et al; Thermal effects on skeletal muscle tensile behavior Am J Sports Med 1993;21:517.
- American College of Sports Medicine: Guideline for exercise testing and prescription ed 4 Philadelphia, Lea & Febiger 1991.
- Astrand PO, Rodahl K: Textbook of work physiology. New York, McGraw-Hill 1986.
- Brooks G A, Fatey T D: Fundamentals of Human performance: New York Mcmillan 1987.
- Guyton AC: Textbook of Medical Physiology ed 8, Philadelphia WB Saunders 1991.
- McArdle WD, Katch FI, Katch VL: Exercise Physiology : Energy nutrition and human performance. Ed 3, Philadelphia, Lea & Febiger 1991.
- Gray GW: Chain reaction. Adrian Mich, Wynn Marketing 1991, pp-80-98.
- Fringier MN, Stull GA: Changes in Cardiorespiratory parameters during period of training and detraining in young adult females. Med Sci sports 1974;6:20.
- Kendrik JV, Pollock ML, Hickman TN et al: Effects of training and determining on Cardiovascular efficiency. Am corrective therapy J. 1971; 25-79.
- Akeson WH: An experimental study of joint stiffness J Bone joint surgery Am 1961;43:1022.
- Milner-Brown HS, Stein RB, Yemm R: The orderly recruitment of human motor units during voluntary isometric contraction. J. Physiology 1973;230:359.
- Moritani T, deVries HA: Neural factors versus hypertrophy in the time course of muscle strength gain. Am J Phy Med 1979; 58: 115.
- Sale D, MacDougall D: Specificity in strength training. A review for the coach and athlete In Science periodical on research technology in sport. The coaching association of Canada March 1981.
- Smodhalaka VN, Rehabilitating the injured athlete Phy Sports Med 1977 5 :43-52.
- Alman F. L. Rehabilitation following athletic injuries In O Donoghue DH (ed): Treatment of injuries to athlete 4th ed. Philadelphia. WB Saunders Company 1984 P 677.

Menopause and HRT

Nasreen SZA¹

The ORION 2005 ; 22 : 307

Menopause means permanent cessation of period or reproductive function. Estrogen deficiency, associated with menopause leads to a range of symptoms, which are experienced to some degree by a majority of women^{1,2}. Vasomotor upset and urogenital symptoms are most frequently reported, other common complaints include insomnia, headache, loss of libido, irritability, loss of memory, lack of concentration, anxiety, loneliness and depression^{1,3}.

Vasomotor symptoms consisting of hot flushes and or night sweating occurs in up to 40%-85% of women at natural menopause and more than 90% in surgical menopause⁴. Symptoms of urogenital atrophy (Vaginal dryness, irritation, pain during intercourse, urinary incontinence and infection) are reported by as many as 40% of post menopausal women⁵. Chronic symptoms includes osteoporosis and IHD. An Alzheimer disease is also related to menopause.

The average duration of menopause transition is approximately- four to five years^{4,5,6}. Symptoms may persist for a decade or more after the cessation of men. Osteoporosis is related to estrogen deficiency and makes the patient prone to fracture. DEXA (dual energy X ray absorptiometry) is most sensitive to measure bone mass density. Menopause enhances increase bone remodeling within the bone mass.

Climacteric symptoms may compromise overall wellbeing and quality of life. HRT (hormone replacement therapy) is highly effective for the relief of vasomotor symptoms, as well as other climacteric complaints⁷. HRT has been found to be even more effective than symptoms specific treatment for symptoms relief and improvement of overall quality of life. HRT conjugated equine estrogen 1.2gm/day given cyclically significantly improves hot flushes insomnia and vaginal dryness. Various psychological problems such as anxiety irritability and poor memory also improve. HRT improves depression but it has little effect on libido. Testosterone supplements along with HRT significantly improves libido.

HRT improves cognitive function and prevents AD (Alzheimer's disease). It is also associated with reduction of some colonic cancer. Most striking feature of HRT is it reduces fracture risk in women up to 74 years of age and increase bone density in women up to 80 years of age. HRT has also been shown to improve bone density in established osteoporosis. In both prevention and treatment Estrogen has a greater effect on spine than hip.

HRT has been linked to endometrial hyperplasia or and cancer if unopposed estrogen is administered in women with intact uterus. Therefore in such case combined (cct) estrogen therapy should be used. Recently breast cancer is a burning issue in all over the world. In fact risk increases proportionately to duration of use of HRT and the risk becomes statistically significantly at 10 years of use. However it is clear from the available literature is that the effect of HRT on risk of breast cancer can not be large. If it was, then it have been detected by now.

1. Dr. Sk Zinnat Ara Nasreen, MBBS, MRCOG, FCPS
Associate Professor & Head Dept of Obs & Gynae
Z.H. Sikder Womens Medical College, Dhaka

Thromboembolism is another risk of HRT use but is less than that of in pregnancy and during use of OCP. The risk perhaps 1 in 3000 women years of exposure.

Keeping all of this in mind HRT should be avoided when there is history of estrogen dependent neoplasm, drug or alcohol abuse, presence of liver disease, untreated hypertension, diabetes, severe psychological disorder, thyroid disorder, thromboembolism and undiagnosed vaginal bleeding.

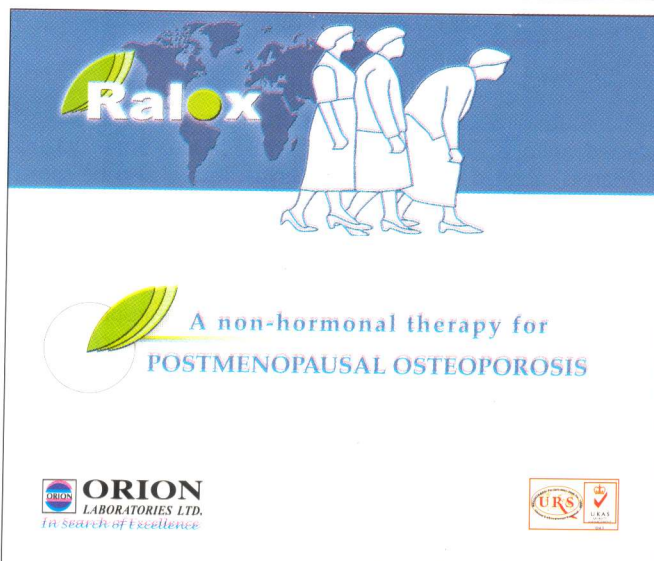
Baseline assessment should be performed during initial screening including medical history physical examination, mammography, vaginal and cervical cytology and vaginal examination.

Route of HRT are oral estradiol, transdermal patch, subcutaneous implants, topical gel and vaginal ring. Each of them has its own benefits disadvantages so routes of administration need to be individualized. Unfortunately in our country no other preparation except oral pill is available

HRT should not be randomly prescribed, proper counseling, risk, benefits should be discussed. On the other hand, breast cancer risk should not be overemphasized. Nevertheless all women have the right to enjoy life and as HRT improve the quality of life and prolong quantity. So HRT need to be prescribed wherever appropriate.

References

1. Smith RN, Studd JW. Recent advances in hormone replacement therapy. *Br J Hosp Med*. 1993;49:799-808.
2. Hagstad A, Janson PO. The epidemiology of climacteric symptoms. *Acta Obstet Gynecol Scand Suppl* 1986; 134:59-65.
3. Greene JG. Constructing a standard climacteric scale. *Maturitas*;1998;29:25-31.
4. McKinlay SM, Brambilla DJ, Posner JG. The normal menopause transition. *Maturitas*;1992;14:103-115.
5. Feldman BM, Voda A. The prevalence of hot flash and associated variables among perimenopausal women. *Res Nurse Health*; 1985;8:261-268.
6. Guthrie JR, Dennerstein L. Hot flushes, menstrual status, and hormone levels in a population based sample of midlife women. *Obstet Gynecol* 1996;88:437-442.
7. Bachmann GA. Vasomotor flushes in menopausal women. *Am J Obstet Gynecol* 1999;180:S312-S316.



Ralox

A non-hormonal therapy for
POSTMENOPAUSAL OSTEOPOROSIS

ORION
LABORATORIES LTD.
In search of Excellence

URS

Brucellosis: An overview

Khan MAA¹

The ORION 2005 ; 22 : 308-309

Introduction

Brucellosis, otherwise called as Bangs disesse, undulant-fever, Malta fever and mediterranean fever. This is an infectious and contagious disease of animals caused by the bacteria genus *Brucella*. These bacteria are primarily passed among animals and they cause disease in different vertebrates. Various *Brucella* species affect animals like sheeps, goats, cattle, deer, elk, pigs, dogs etc. Human beings become infected by coming in contact with infected animals and eating or drinking the animal product that are contaminated with these bacteria. In human Brucellosis presents a wide range of symptoms that are similar to the flue, like fever, sweats, headaches, back pain and prostrations. Severe infections of CNS or lining of heart may occur. In prolong cases chronic syptoms like recurrent fever, joint pain and fatigue may occur.

Etiological Agent

Brucella bacteria cause Brucellosis. The species of *brucella* which infect human are *B. abortus*, *B. melitensis*, *B. suis* and rarely *B. canis*.

Incubation period

The incubation period for brucellosis is highly variable ranging from 5 to 60 days. The illness most commonly occur in about 1 month after exposure.

Availability

Brucellosis can be found world wide but it is more in countries where do not have good standardised and effective public health and domestic health programs. Listed high risk countries are the countries of Mediterranean basin (Portugal, Spain, Italy, Greece, Turkey, Middle east, North Africa), South and central America, East European and Caribbean. It is also not uncommon in the countries of subcontinent like Pakistan, India and Bangladesh.

Reservoirs

Cattle, Swine, Goats and Sheeps are the most common reservoirs. Bison, Elk, Caribou and some species of Deer may also harbour *Brucella* species. *B. canis* is an occasional problem in laboratory dog colonies and kennels. A small percentage of pet dogs and a higher proportion of stray dogs have *B. canis* antibody titres. Coyotes have also been found to be infected.

Transmission

Brucellosis is spread through direct, contact (mucosal surfaces, cuts and abrasions of the skin), with secretions of living or dead infected animals, including, their tissues, blood, urine, vaginal discharges, aborted fetuses and placentas. It may also be spread through ingestion of raw milk and dairy products from infected animals. Person may also be infected through accidental inoculation with live *brucella* vaccine strain used for livestock (Strain-19). Person to person spread is extremely rare, although it has been reported to occur through bone marrow transplantation. In cattle brucellosis is primarily a disease of the female cow. Bulls can be infected but they do not readily spread the disease. The brucellosis organism localises in the testicles of the bull and produces an orchitis, whereas in the female the organism localizes in the udder, uterus and lymph nodes adjacent to the uterus.

Clinical Features

Brucellosis may present as a nonspecific febrile illness which resembles influenza, fever, headache, myalgia, arthralgia, back pain, sweats, chill and generalise weakness and malaise are the common complains. Cough and pleuritic chest pain may occur in upto 20% of the cases but these are usually not associated with acute pneumonitis. Gastrointestinal symptoms occur in upto 70% of adult cases and less frequently in children, These includes anorexia, nausea, vomiting, diarrhoea or constipation, ileitis, colitis and granulomatous or a mononuclear infiltrative hepatitis may occur. Lumber pain and tenderness can occur in upto 60% of cases. Vertebral and disc space destruction may occur in chronic cases. Hepatomegaly and splenomegaly can occur in upto 45% to 63% of cases. Peripheral joint involvement may vary from pain, swelling to joint immobility and effusion. Peripheral joint effusions usually show mononuclear cell predominance and the organism can be isolated in upto 50% of cases. The hip joints are the most commonly involved peripheral joints but ankle, knee and sternoclavicular joint infection may occur. Meningitis occur in less than 5% of chronic cases may present as an acute illness. Encephalitis, peripheral neuropathy, radiculoneuropathy and meningovascular syndrome has also been observed in some cases. Behavioral disturbances in children and psychoses may occur in the meningo encephalitic form of the disease. Epidymo-orchitis may occur in men. Rashes occur in less than 5% of cases and include macules, papules, purpura, petechiae and erythema nodosum.

Diagnosis

The leukocyte count may be normal or low. Anaemia and thrombocytopenia may occur. Blood or bone marrow culture during the acute phase of the disease will yield a positive in a rate of 15% to 90% respectively. A bioassay culture method for blood (castaneda bottle) may increase the number of isolates. The serum agglutination test (SAT) will detect both IgM & IgG antibodies, A titre of 1:160 or greater is indicative of acute disease. A 1 gM titre can be measured by adding a reduced agent such as 2-mercaptoethanol to the serum. A dot-Elisa using an autoclaved extract of *B. abortus* has been found to be a sensitive and specific test for detection of *Brucella* antibodies under field conditions. Elisa tests for antibody detection require standardization using a specific antigen before they will be available. Antigen detection on DNA extracted from blood mononuclear cells has been accomplished using PCR analysis of a target sequence on the 31-kilodalton *B. abortus* protein BCSP 31. This test has been proven to be rapid and specific and may replace blood culture in the future, since the later may require incubation for upto 6 weeks time. PCR for *brucella* species is not available at this time except in research laboratories, but shows promise for the future, use.

Medical Management

Isolation is not required other than contact isolation for draining lesions. Person to person transmission is possible via contact with such lesions. Biosafety level 3 practices should be used for suspected *brucella* culture in the laboratory because of the danger of inhalation infection. Antibiotic therapy is recommended as the sole therapy unless there are surgical

1. Dr. Md. Afsar Ali Khan, MBBS, DCH (Ireland), C.A. Ped. (Glasgow, U.K.)
Jr. Consultant, Pediatric Department
Bangladesh Medical College Hospital, Dhaka.

indications for the treatment of localised diseases (e.g. valve replacement for endocarditis). The treatment recommended by the WHO for acute brucellosis are Doxycycline plus Rifampicin for a maximum period of six weeks. The previously established regimen of intramuscular streptomycin along with an oral tetracycline may give fewer relapses but is no longer the primary recommendation. Ofloxacin and rifampicin per oral is also an effective combination. Combination therapy with rifampicin, tetracycline and an Aminoglycosides is an indication for infections with complications such as meningoencephalitis or endocarditis. Doxycycline clearance is increased in the presence of Rifampicin and plasma levels are lower than when streptomycin is used instead of rifampicin.

Prophylaxis

Live animal vaccines are used widely. Consumption of unpasteurised milk and milk products should be avoided. No approved human brucella vaccine is available. An experimental human brucellosis vaccine has been tested with a 25% rate of unpleasant acute side effects, but no longer term adverse side effects.

Conclusion

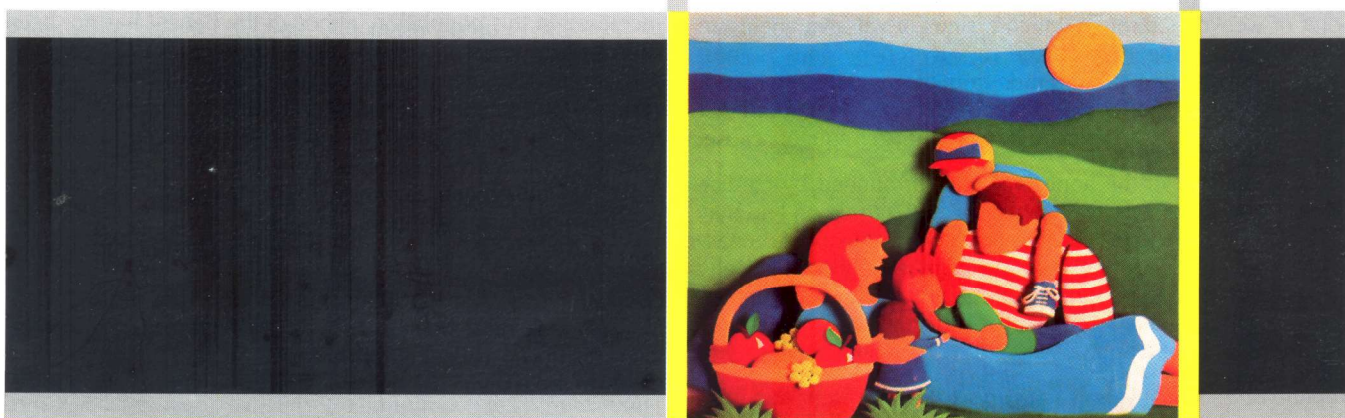
As mentioned early Bangladesh is one of the Brucella available country and moreover our society and culture is related with domestic animals. Because of the food habits and illiteracy, people are taking plenty of unpasteurised milk and milk products. So doctors must be careful in taking the history specially social, professional and dietary history of the patients those who attend with prolong fever with prostrations.

References

1. Alton, G. Frank JF., ed. : Brucella melitensis In Net working in Brucella research.
2. World health Organisations : Sixth report of the Joint FAO/WHO expert on Brucellosis.
3. Young, EH : An overvie of human brucellosis, Clin infect Dis 1995.
4. Araj, GF : Human brucellosis : a classical infectious disease with persistent diagnostic challenges.
5. Yagupsky, P : Detection of brucella in blood cultures.
6. Orduna.A. Almaraz. A. Prado, A, & et. al. : Evaluation of an immunocapture-agglutination test for serodiagnosis of human brucellosis.
7. Treatment of human brucellosis with doxycycline plus rifampicin and doxycycline plus streptomycin, randomized double-blind study, Am intern Med : 1992.
8. Corbel, MJ : Brucellosis : an overview emerg infect Dis-1997.
9. Characteristics of and risk factors for a relapse of brucellosis in human clin infect dis 1995.
10. A recognition and optimum tretment of brucellosis Drugs 1997.
11. CDC Website. Brucellosis. Available at <http://www.cdc.gov/od/oc/media/fact/Brucello.htm>. Updated February 2000.

pep-20 Tablet

Elemental Zinc 20 mg



panacea for the whole family

ORION
LABORATORIES LTD.
In Search of Excellence



Rupture sinus of valsalva and peripheral arterial disease :A rare combination

Patwary MSR¹, Reza AQM², Faruque M³, Sharmina R⁴, Zaher A⁵

The ORION 2005 ; 22 : 310-311

Abstract

A 40 year old man admitted in cardiology department, NICVD, Dhaka with complaints of dyspnoea on mild exertion for two months. He was evaluated clinically and investigated with ECG, chest x-ray, Echo and angiographically. There was a continuous murmur over second and third intercostal spaces on the left sternal border, low volume pulse on the right lower limb than that of left. Echocardiogram revealed rupture sinus of valsalva into the right atrium. Oxymetry showed 15%, significant step up in the right atrium. Pulmonary and systemic blood flow ratio was 2.17:1. Left to right shunt was 54.11%. Pulmonary vascular resistance was 3.16 wood units. Right atrial systolic, diastolic and mean pressures were 25, 13, and 19 mmHg respectively. Root aortography confirmed rupture sinus of valsalva into right atrium. Coronary angiogram showed normal coronary arteries. Peripheral angiogram showed 90% stenosis in the proximal part of right common iliac arteries. He was diagnosed as a case of rupture noncoronary sinus of valsalva into right atrium with peripheral vascular diseases involving right common iliac artery.

Key words

Rupture sinus of valsalva, Right atrium, Peripheral vascular diseases, Right common iliac artery.

Introduction

Sinus of valsalva fistula is uncommon. It is most common in adults¹. Congenital failure of fusion of the aortic media with the fibrous skeleton of the heart at the aortic valve ring provides a point of weakness through which a sinus of valsalva aneurysm may develop². Aneurysm of the right coronary sinus is most frequent. Most of the rest protrude from the noncoronary sinus. Congenital aneurysms of the left coronary sinus are rare. In that location, infective endocarditis is a more frequent cause.

Because the root of the aorta is nearly surrounded by cardiac chambers, sinus of valsalva aneurysms may intrude on and may rupture into one of them. An aneurysm of the noncoronary sinus typically protrudes into the right atrium and usually ruptures into that chamber. Rarely recognized prior to rupture, sinus of valsalva aneurysm may be detected on imaging of a patient for some other purpose.

Rupture of a sinus of valsalva aneurysm usually results in a large shunt from the aorta to the right heart chambers³. The patient

presents with a continuous murmur and bounding arterial pulses. Often severe heart failure is present. With a large shunt, the heart failure is usually rapidly progressive and may result in death very quickly. The diagnosis is readily made from the clinical picture and echocardiography. Cardiac catheterization will confirm the level of the shunt⁴. Because of the natural history, all patients should have this condition corrected surgically. Surgical results are usually quite good. In the large series, the operative survival was 96 percent with no late deaths in an average of 5.9 years of followup¹.

Peripheral arterial disease affects 10 to 15% of the adult population in developed countries. Arteriosclerosis obliterans is the most common cause of lower extremity ischemic syndromes in western societies re-gardless of age⁵. The presentation varies greatly with the time course of progression, the presence and extent of collateral vessels, co morbidities, and activity of the patient. In general, symptoms occur distal to the level of stenosis.

There is a relatively high prevalence of arteriosclerosis obliterans that increases with age^{5,6}. Risk factors for arteriosclerosis obliterans reflect those for coronary disease⁷. The risk of death, usually from a cardiovascular event, increases dramatically as the ankle brachial index (ABI) de-creases^{8,9}.

Aggressive risk factor modification should be the cornerstone of therapy in all patients. Smoking cessation is a must. Control of diabetes should be emphasized, since the risk for amputation is increased in this population, although the benefit has not been documented in large arteries. Lipid lowering has a beneficial role in patients with arteriosclerosis obliterans^{10,11}. The goals are similar to those for patients with coronary artery disease¹². Hypertension control should be opti-mized.

Case history

A 40 years old normotensive, non diabetic, dyslipidaemic, smoker male patient was admitted into cardiology department, NICVD, Dhaka with the complaints of sudden onset of shortness of breath for two months. There was no history of trauma, prolong fever. His pulse was 88/minute of large volume, regular in rhythm. Pulse volume on the right lower limb was low than that of left. Blood pressure was 120/60 mm Hg. There is a continuous thrill over second and third intercostal spaces on left sternal border. 1st and second heart sound was audible in all areas and was normal. There was a continuous murmur of grade 4/6 over same area.

Electrocardiogram shows normal findings. X-ray chest shows mild cardiomegaly. Echocardiogram revealed rupture sinus of valsalva into the right atrium (Figure-1). Oxymetry showed oxygen saturation in the mid right atrium was 76% with significant step up (15%) in the right atrium. Pulmonary and systemic blood flow ratio was 2.17:1. Left to right shunt was 54.11%. Pulmonary vascular resistance was 3.16 wood units. Right atrial systolic, diastolic and mean pressures were 25, 13 and 19 mmHg respectively.



Fig. 1. Color Doppler echocardiogram shows turbulent flow from aorta to right atrium through rupture non-coronary sinus of valsalva.

1. **Dr. Mohammad Shafiqur Rahman Patwary**, MBBS, MCPS (Medicine) FCPS (Medicine), MD (Cardiology)
Assistant Registrar Cardiology
National Institute of Cardiovascular Disease (NICVD), Dhaka.
2. **Dr. AQM Reza**, MBBS, MD (Cardiology)
Senior Consultant (Cardiology)
NICVD, Dhaka.
3. **Dr. Md. Faruque**, MBBS, MD (Cardiology)
Assistant Professor Cardiology
NICVD, Dhaka.
4. **Dr. Sharmina Rahman**, MBBS
Training Officer, HIV/AIDS and STD
Alliance Bangladesh, Dhaka.
5. **Dr. Abdus Zaher**, MBBS, FCPS, PACC, FRCP
Professor of Cardiology
NICVD, Dhaka.

Root aortography showed rupture sinus of valsalva into right atrium (Figure-2). Coronary angiogram showed normal coronary arteries with LVEDP 15 mm Hg. Peripheral angiogram showed 90% stenosis in the proximal part of right common iliac artery (Figure-3). He was diagnosed as a case of rupture noncoronary sinus of valsalva into right atrium with peripheral vascular diseases involving right common iliac artery.



Fig. 2 : Root Aortogram shows contrast passing from aorta to right atrium through rupture sinus of valsalva.



Fig. 3 : Peripheral angiogram shows 90% stenosis in the proximal part of right common iliac artery.

Discussion

Sinus of valsalva fistula is uncommon and adults are most commonly affected¹. Aneurysm of the noncoronary sinus is less frequent. Congenital failure of fusion of the aortic media with the fibrous skeleton of the heart at the aortic valve ring provides a point of weakness through which a sinus of valsalva aneurysm may develop². When aneurysm of the noncoronary sinus ruptures, a fistulous connection between the aorta and right atrium results. Rupture of a sinus of valsalva aneurysm usually results in a large shunt from the aorta to the right heart chambers³. The patient presents with a continuous murmur, bounding arterial pulses and high JVP. Often severe heart failure is present. In this case the murmur was loud and continuous, heard over second and third intercostal spaces on left sternal border. The apical impulse was hyperdynamic. Pulse was large volume and bounding.

In this case diagnosis was readily made from the clinical picture and color Doppler echocardiography. Cardiac catheterization confirmed the level of the shunt. In this case, oxymetry showed oxygen saturation in the mid right atrium was 76% with significant step up (15%) in the right atrium. Pulmonary and systemic blood flow ratio was 2.17:1. Left to right shunt was 54.11%. Pulmonary vascular resistance was 3.16 wood units. Right atrial systolic, diastolic and mean pressures were 25, 13 and 19 mmHg respectively. Root aortography showed rupture sinus of valsalva into right atrium (Figure-2). Coronary angiogram showed normal coronary arteries with LVEDP 15 mm Hg. Peripheral angiogram showed 90% stenosis in the proximal part of right common iliac artery (Figure-3). With slow rupture and a small shunt, the major risk is infective endocarditis or extension of the rupture with an increasing shunt. With a large shunt, the heart failure is usually rapidly progressive and may result in death very quickly. A few patients seem to stabilize in this situation.

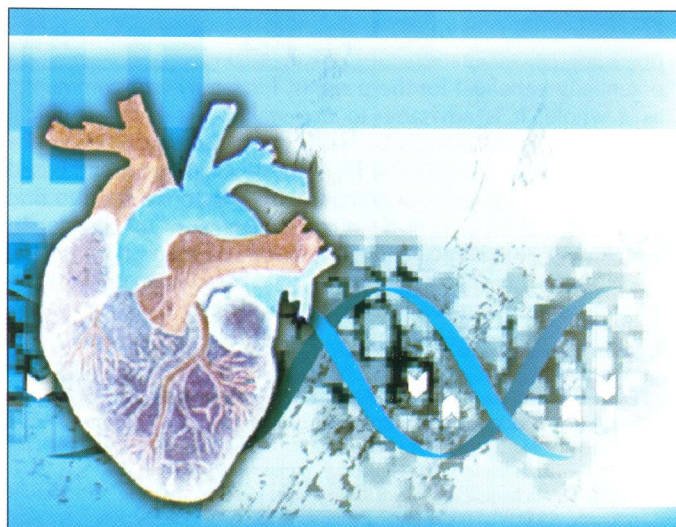
Because of the natural history, all patients should have this condition corrected surgically. Surgical results are usually quite good¹. In this patient for right common iliac artery surgical revascularization may be considered. Large vessel bypass surgery with synthetic graft material is well established and durable. More recently, in situ distal bypass utilizing reversed or intact saphenous vein has shown promising long-term patency. Percutaneous balloon angioplasty with or without stent placement is often useful for lesions of the proximal renal and iliac arteries.

Conclusion

Rupture sinus of valsalva is a rare disease usually present in young and peripheral arterial disease is a disease of elderly people usually associated with coronary artery disease. In this young patient presents with rupture sinus of valsalva also have a isolated single peripheral arterial disease, a rare combination, may be missed without meticulous clinical examination.

References

1. Takach TJ, Reul GJ, Duncan JM, et al. Sinus of Valsalva aneurysm or fistula: Management and outcome. *Ann Thorac Surg* 1999; 68:1573-1577.
2. Sakakibara S, Konno S. Congenital aneurysm of the sinus of Valsalva: Anatomy and classification. *Am Heart J* 1962; 63:405-424.
3. Lindsay J Jr. Anatomic and pathogenetic basis for some uncommon clinical syndromes from aortic disease. In: Lindsay J Jr, ed. *Diseases of the Aorta*. Philadelphia: Lea and Febiger; 1994:165-177.
4. Shaffer EM, Snider AR, Beekman RH, et al. Sinus of Valsalva aneurysm complicating bacterial endocarditis in an infant: Diagnosis with two-dimensional and Doppler echocardiography. *J Am Coll Cardiol* 1987; 9:588-591.
5. Criqui M, Denenberg J, Langer R, et al. The epidemiology of peripheral arterial disease: Importance of identifying the population at risk. *Vasc Med* 1997; 2:221.
6. Stoffers H, Rinkens P, Kester A, et al. The prevalence of asymptomatic and unrecognized peripheral arterial occlusive disease. *Int J Epidemiol* 1996; 2:282.
7. Hooi J, Stoffers H, Kester A, et al. Risk factors and cardiovascular diseases associated with asymptomatic peripheral arterial occlusive disease: The Limburg PAOD Study: Peripheral Arterial Occlusive Disease. *Scand J Prim Health Care* 1998; 16:177.
8. Criqui M, Denenberg J. The generalized nature of atherosclerosis: How peripheral arterial disease may predict adverse events from coronary artery disease. *Vase Med* 1998; 3:241.
9. McKenna M, Wolfson S, Kuller L. The ratio of ankle and arm blood pressure as an independent risk factor of mortality. *Athero* 1991; 87:119.
10. Hamalainen H, Ronnema T, Halonen J, et al. Factors predicting lower extremity amputations in patients with type 1 or type 2 diabetes mellitus: A population-based 7-year follow-up study. *J Intern Med* 1999; 246:97.
11. Migdalis I, Dimakopoulos N, Kourti A, et al. The prevalence of peripheral vascular disease in type 2 diabetic patients with and without proteinuria. *Int Angiol* 1994; 13:229.
12. Barndt R, Blankenhorn D, Crawford D, et al. Regression and progression of early femoral atherosclerosis in treated hyperlipoproteinemic patients. *Ann Intern Med* 1977; 86:139.



Angimet
Trimetazidine Dihydrochloride INN 20 mg

The only cardiac metabolism enhancer

ORION
LABORATORIES LTD.
In Search of Excellence



Cervical rib surgery : A study of 20 cases

Rahman ML¹, Mohammad G², Alam I³, Shahjahan A⁴

The ORION 2005 ; 22 : 312

Abstract

Cervical ribs give rise to vascular and neurogenic manifestation in the upper limb due to stretching and friction of neurovascular bundle in the base of the neck by numerous mechanism includes cervical ribs, anomalous ligament & hypertrophy of the scalenus anticus muscle. Controversy surrounds the diagnosis and management of thoracic outlet syndrome with or without cervical ribs.

This is a small study of 20 cases carried out from 1994 to 2004 at RMCH (Rajshahi Medical College Hospital) and some private hospitals. Out of them, 15 patients (75%) were male and 5 patients (25%) were female. The age of the patients were between 15 to 48 years (mean age 33 years) Unilateral cervical ribs were present in 75% cases and the rest 25% had bilateral cervical ribs. Only 3 patients presented with gangrenous upper limb. One of the patients attended to orthopedic surgeon first and amputation was planned.

All the patient were treated through supra-clavicular approach for excision of cervical ribs together with fibrous band. Only one patient did not respond to this initial surgery as symptoms persist and reoperation done by excision of first-rib and ultimately that patient become symptom free. In this study, authors will explain their own experience of various way of presentation of cervical ribs, aetiology, different modalities of the treatment and their out come.

Introduction

Cervical ribs is rare condition occurring in less than 1% of the population¹. It gives rise to vascular or neurogenic manifestation in the upper limb. It causes stretching and friction of the lower trunk of the brachial plexus and subclavian vessels produces a syndrome known as thoracic outlet syndrome, that was first discovered by Gale and Veaslius in the second century. The first unsuccessful resection of Cervical rib in the patient of thoracic outlet syndrome was performed by Coote in 1861². In 1905 Murphy first made a successful resection of Cervical rib in the patient of thoracic outlet syndrome and he also removed the first rib in the thoracic outlet syndrome using supraclavicular approach in the first time.

In 1927, Adson Coffey emphasized the role of ligaments, soft tissues and scalenus muscle in producing thoracic outlet syndrome and made the first successful resection of the scalenus anticus muscle³. In 1966 David Ross introduced the transaxillary resection of the first rib⁴. The aim of this paper to describe and share the personal experience of cervical ribs surgery.

Materials and methods

This prospective study that was done over 10 years from 1994 to 2004 at RMCH and some private hospitals. In this study, a total of 20 cases of cervical ribs were included. Details history of the patients, thorough physical examination and relevant investigations were done.

1. **Dr. Md. Lutfur Rahman**, MBBS, FCPS, MS
Asso. Prof. and head, Neurosurgery Unit (NSU), RMCH.
2. **Dr. Golam Mohammad**, MBBS, FCPS (Part-II)
Registrar, NSU, RMCH.
3. **Dr. Intekhab Alam**, MBBS, MCPS, DA, FCPS
Assist. Prof. anaesthesiology, RMCH.
4. **Dr. Md. Shahjahan Ali**, MBBS
Indoor Medical Officer, Surgery Unit-II, RMCH

Results

20 Patients of cervical ribs syndrome were brought under the scope of this present study. Out of 20 patients, 15 were male (75%) and 5 were female (25%). The age of the patients were 18 to 48 years (mean age were 33 years). All the patients presented with pain, paresthesia or numbness in the distribution of one or more trunk of the brachial plexus (usually in the ulnar nerve distribution) and vascular insufficiency in the upper limb. 2 (Two) patients, out of 20 cases, were presented with gangrenous upper limb. Only 25% cases were bilateral and remaining were unilateral. One of the patients attended in orthopedic department where amputation was planned. Plain X-ray neck both views were done in all cases and diagnosis were made by positive findings of cervical ribs.



Fig-1: Plain X-ray of neck

All the patients with thoracic outlet syndrome was treated by excision of the cervical ribs together with fibrous band by supraclavicular approaches. But only one case also treated by excision of 1st rib to relief the symptoms. This study showed that among the 20 cases, 19 patients were recovered well. Only one patient did not respond to initial surgery, re-exploration surgery was done whose first rib was excised and ultimately patients became symptoms free. In our study, there was no mortality.

Discussion

In our study, it was shown that the mean age of patients were 33¹. Many of them first reported in different department other than neuro surgery. Some of the patients came with the gangrenous limb as a late case, still recovered well after surgery⁵. We think that if all the patients would come at proper place at early stage then morbidity and mortality would be very minimum and may recovered by 100%.

Conclusion

This limited study of thoracic outlet syndrome does not reflect the actual statistical pattern of total problem of our country but it can be postulated from this study that thoracic outlet syndrome caused by cervical ribs & anomalous ligament is rare condition in our country. Sound clinical judgement, accurate patho physiological evaluation, firm decision and prompt action in potentially beneficial for the patients, his family and community as a whole. It is advisable to undertaken a selective surgical approach for thoracic outlet syndrome before development of complication and thus avoid high risk of gangrene. Broad based prospective study large population size should be done to find out the actual incidence of various presentations, aetiology and modalities of treatment and their out come.

Acknowledgement : Director, Rajshahi medical college hospital.

References

1. Wood VE. Taito R. Verksa JM. thoracic outlet syndrome. Orthop clin, north Am 1988; 49: 131-46.
2. Wilbourn AS the thoracic outlet syndrome is over diagnosed. Arch neuro 1990; 47: 328-30.
3. Roos BD, the thoracic outlet synderrated, Arch Neuro 1990, 47-327-8.
4. Cherington. M. surgery for the thoracic outlet syndrome. N Engl-J and 1986; 314-322. follow up study J-Neuro surge psychiatry. 199; 67. 602: 606.
5. Donagy M. Markovic Z and Morris P surgery for suspected neurogec thorac. icoulet syndrome. A follow up study J-Neuro. Neuro surge psychiatry. 1999:67:606.

"Plain radiography" : Still now the gold standard for the diagnosis of bone tumor

Akhand MI¹, Ghamsari PS²

The ORION 2005 ; 22 : 313-314

Abstract

The diagnosis of a bone tumor requires the co-operation of the clinician, radiologist and pathologist. Radiological examination is essential before an attempt at a diagnosis of a bone tumor can be made. The histopathologist usually establishes the definitive diagnosis. It would be wrong, however for the radiologist to accept that this is always possible or that the histological appearances can be considered in isolation. In further management, other specialists in radiotherapy, oncology, biomedical engineering etc. may be added to these.

Primary Tumors of Bone

Primary benign tumors of bone are often encountered as chance findings on routine radiology. They include simple bone cysts (usually seen in young adults and children), enchondromas, simple osteomas, and osteochondromas. Simple bone cysts sometimes present with pathological fracture². Primary malignant tumors of bones include osteogenic sarcoma, chondrosarcoma, Ewings tumor, malignant osteoclastoma and other rarer tumors.



Fig. 1: Simple bone cyst affecting upper part of the femur

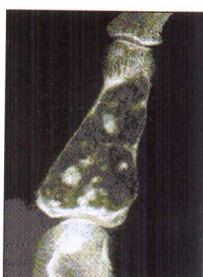


Fig. 2 : Enchondroma of proximal phalanx



Fig.3 : Osteochondroma affecting metaphyseal part of the Tibia



Fig. 4 : Osteogenic sarcoma of distal femur



Fig. 5 : Chondrosarcoma of pubic ramus



Fig. 6 : Malignant Giant cell tumor (osteoclastoma) of distal radius

Osteogenic sarcoma, in which the prognosis is so grave, occurs mainly in children or adolescents, although it is also encountered in elderly patients as a complication of Paget's disease. The radiological manifestations can differ widely. Some tumors are markedly osteolytic producing widespread bone destruction; others are markedly osteoblastic, producing irregular bone sclerosis. X-Ray appearances are often diagnostic with 'sun-ray' spicules of bone extending out into soft tissues and a characteristic

periosteal reaction at the margin of the tumor (Codman's triangle). In both cases there may be involvement of soft tissues with extension of the tumor outside the bone. CT or MRI shows this well. Metastases usually occur in the lung and can be of the large 'cannon ball' variety.

Multiple myeloma

This occurs mainly amongst middle-aged and elderly patients and the diagnosis is often missed in the early stages. Clinically, bone aches and generalized weakness may be presenting features. The X-ray appearance are often diagnostic although marrow puncture and electrophoresis may be necessary to confirm the diagnosis³. Myelomatous deposits appear as small punched-out holes in the bone. Sometimes, particularly in the spine, appearances are produced resembling generalized osteoporosis. Small round punched-out deposits are also seen in the skull and are virtually diagnostic.



Fig.7: Multiple myeloma with multiple punched out lesions in skull are classic

Osteoid osteoma

Despite its name, osteoid osteoma is not really a tumor. This interesting condition often gives rise to severe local bone pain. Radiology shows a small localised bony sclerosis with a central translucent area or 'nidus'. It is characteristic of these patients that for some unexplained reason the severe pain is often relieved by aspirin⁴.

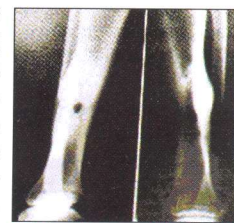


Fig. 8: Osteoid osteoma of mid shaft of the Tibia

Metastatic tumors

The bony skeleton is a common site for metastases, and secondary deposits are commonly seen in carcinoma of the breast, carcinoma of the lungs and other forms of malignancy. Metastases in bone may show quite varied radiological appearances. They may produce purely osteolytic lesions or they may produce an osteoblastic reaction. Mixed osteolytic and osteoblastic deposits are also seen, as lytic and osteoblastic secondary deposits. In most types of tumor, however, the deposits tend to be predominantly of one type. Thus, carcinoma of the kidney nearly always produces osteolytic deposits, whereas carcinoma of the prostate or pancreas commonly produce osteoblastic deposits⁵. The widespread involvement of bone by metastases, which occurs in the terminal stages of many carcinomas, is bone metastases showing as areas of high uptake in the vertebrae, ribs and scapulae, associated with pain, weakness and severe anaemia. Bone involved by metastases may undergo pathological fracture, and patients may occasionally present with a spontaneous fracture. X-ray will show that this is a pathological fracture and a previously unsuspected malignancy will be diagnosed.

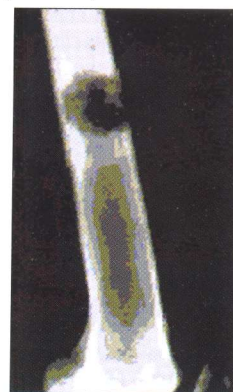


Fig. 9 : Metastatic lesion in the shaft of femur

1. **Dr. Md. Ishaque Akhand**, MBBS, MD (Radiology)
Associate Professor, Head of Department of Radiology and Imaging
Moulana Bhasani Medical College, Uttara, Dhaka.
2. **Dr. Parviz Shahidi Ghamsari**, MBBS, MS (Orthopedics)
Assistant Professor, Head of the Department of Orthopaedic Surgery
Moulana Bhasani Medical College, Uttara, Dhaka.

Table -1⁶

Sl.	Clinical presentation and plain x-ray finding	Possible diagnosis
1.	25-year-old woman with dull aching pain in the wrist; radiographs revealed a well-defined expansile eccentric lesion at the distal radius, extending to its distal articular surface.	Giant cell tumor
2.	22-year-old man with pain in popliteal region; radiographs revealed a stock-like lesion arising from the proximal tibia, pointing inferiorly.	Osteochondroma
3.	40-year-old woman with renal stones, hypercalcaemia and focal lytic lesion at the proximal femur.	Brown tumor
4.	56-year-old smoker with a painful swollen index finger; radiographs reveal a lytic aggressive lesion of the proximal phalanx.	Metastatic lung cancer
5.	61-year-old man with renal failure, recurrent infections and bone pain; radiographs show osteopenia; bone scan is normal.	Multiple myeloma
6.	16-year-old boy with fever, anaemia, anorexia, and leucocytoses; radiographs reveal a large lytic lesion at the distal femur with a large soft tissue mass.	Ewing's sarcoma
7.	50-year-old man with haematuria and enlarged expansile lytic lesion of the left iliac wing.	Metastatic renal cell carcinoma
8.	4-year-old child with abdominal mass and multiple lytic skeletal lesions.	Metastatic neuroblastoma
9.	16-year-old girl with retinoblastoma as an infant and a large painful mass involving the knee.	Osteosarcoma
10.	50-year-old woman with multiple osteoblastic lesions throughout the spine and pelvis.	Metastatic breast cancer
11.	6-month-old girl with chronic otitis media, eczematous rash; multiple lytic bone lesions, and normal bone scan.	Eosinophilic granuloma

Conclusion

In many cases, the radiological diagnosis will be confirmed by the pathologist. In others, the radiologist differential diagnosis will include the primary diagnosis of the pathologist and this histological diagnosis is thus acceptable to the radiologist⁷. The radiologist is unwise therefore to diagnose an entity or use a pathological term that his/her pathologist doesn't employ; cooperation between the two specialties is essential. Radiology therefore provides the earliest useful diagnostic evidence of the nature of a bony lesion. Occasionally, in such tumors as cartilage-capped exostoses and non ossifying fibromas and some tumor like lesions such as fibrous dysplasia, the radiological evidence will make biopsy superfluous.

References

1. Mehta MH, Murray RO. 1977, Scoliosis provoked by painful vertebral lesions. *Skeletal Radiol* 1:223-230.
2. McLeod RA, Dahlin DC, Beabout JW. 1976, The spectrum of osteoblastoma. *AJR* 126:321-335.
3. Baker DM. 1970, Benign unicameral bone cysts. A study of 45 cases with long-term follow-up. *Clin Ortho* 71:140-151.
4. Campanna R, Van Horn J, Ruggieri R, Biagini R. 1986, Epiphyseal involvement in unicameral bone cysts. *Skeletal Radiol* 15:428-432.
5. Campanna R, Albisimmi U, Caroli GC, Campanacci M. 1984, Contrast examination as a prognostic factor in the treatment of solitary bone cyst by cortisone injection. *Skeletal Radiol* 12:97-102.
6. Biesecker JL, Marcove RC, Huvois AG, Mike V. 1970 Aneurysmal bone cysts. A clinicopathological study of 66 cases. *Cancer* 26:615-625.
7. Levy WM, Miller AS, Bonakdarpour A, Aegerter E. 1975, Aneurysmal bone cyst secondary to other osseous lesions. *Am J Clin Pathol* 63:1-8.

MSD NEWS

Venue: Banari para Thana Health complex , Barishal

Orion Laboratories Ltd. arranged a RTM on "Zinc and its importance" at Banariparai THC on 11th May, 2005. Dr. Shamsul Islam, THA chaired the meeting. Dr. M.A Rahim, RMO discussed on the topic. About twenty three doctors took part in the meeting.

Venue: Bakergonj Thana Health Complex, Barisal

A round table meeting held on 17 April 2005, at Bakergonj Thana Health Complex on "Role of Zinc" was organized by Orion Laboratories Limited.



Venue: Patuakhali Clinic, Patuakhali

Orion Laboratories Ltd. arranged a RTM on "Zinc and its importance" at Patuakhali Clinic on 15th May, 2005. Dr. Hafiz uddin, Managing Director of the clinic chaired the meeting. About eighteen doctors participate in the meeting.

Venue: Patuakhali Health Care Clinic , Patuakhali

Orion Laboratories Ltd. arranged a RTM on "Zinc and its importance" at Patuakhali Health Care Clinic on 16th May, 2005. Dr. Monir Hossain, Executive Director of the clinic chaired the meeting. Dr. Shafiqul islam, was the key note speaker. About fourteen doctors participate in the meeting.

Venue: Dumki Thana Health complex, Dumki, Putuakhali

Orion Laboratories Ltd. arranged a RTM on "Role of Zinc on human body" at Dumki THC on 18th May, 2005. Dr. Mir Shahinul Islam, T.H & F.P.O of chaired the meeting. Dr. Rifaytul Hayder, R.M.O was the key note speaker. About twenty four doctors participate in the meeting.

Venue: Mothbaria Thana Health complex , Mothbaria, Pirojpur

Orion Laboratories Ltd. arranged a RTM on "Role of Zinc on human body" at Mothbaria THC on 23rd May, 2005. Dr. Khan Habibur Rahman, T.H.A chaired & discussed on the meeting. About twenty doctors participate in the meeting.

Venue: Pediatric Surgery Department, Sher-E-Bangla Medical College, Barishal

Orion Laboratories Ltd. arranged a Scientific Seminar on "Injectables of Orion" organized by Pediatric Surgery Department of SBMCH on 23th june, 2005. Dr. A.K. Mostaq Ahmed, Head of the department of pediatric surgery chaired the meeting. Dr. Ahsanullah was the key note speaker of the session. About sixty doctors participate in the meeting.

Venue: Bagerhat BMA Bhaban, Bagerhat

Orion Laboratories Ltd. arranged a RTM on "Zinc and its importance" at BMA Bhaban, Bagerhat on 16th May, 2005. Dr. Lutful Kabir, President BMA, Bagerhat chaired the meeting. Dr. Md. Abul Kalam Azad, discussed on the topic. About forty doctors took part in the meeting.

Venue: Nowapara Thana Health complex , Nowapara, Jessore

Orion Laboratories Ltd. arranged a RTM on "Pep-20 tablet & Vertex inj." at Nowapara THC on 07th May, 2005. Dr. Titu Mohon Saha, Medical Associate Spoke on the occasion. About twenty two doctors took part in the meeting.

Venue: Yan Jing restaurant, Mirza jungal, Sylhet

Orion Laboratories Limited arranged a scientific seminar on "Vertex and Pep, Pep, Pep-20" at Yan Jing restaurant organized by North East Medical College and Hospital (NEMCH), Sylhet on 4th june 2005. Principle of NEMC Prof. Golam Kibria (late), Managing director of NEMCH Dr. Shahriar Hossain Chowdhury, Chairman of NEMCH Dr. Md. Afzal, Director of NEMCH Dr. Azizur Rahman was present on the occasion. Manager of MSD, OLL Dr. Mohammad Zakirul Karim delivered the corporate message of OLL. Dr. Kazi Anisur Rahman Roman Medical Associate, OLL Conduct the session. Mr. Sharif Ahmed Regional Sales Manager Sylhet, OLL gave vote of thanks to the audience.



Dislodged ureteric stent induced vesical calculus : A case report

Ali M¹, Miah AKMA², Shalahuddin KAKM³, Sumon SM⁴, Kibria ABMG⁵, Banna FMAH⁶

The ORION 2005 ; 22 : 315

Abstract

A 60 years old patient reported to SOPD of Moulana Bhasani Medical College Hospital, on 08/11/04 with prolapsed plastic tube through external urethral meatus for 1 month. Clinically & radiologically diagnosed as secondary vesical calculus developed upon the proximal part of a dislodged ureteric stent, distal part of which prolapsed through external urethral meatus. He had an associated left renal calculus and fragmented proximal part of stent in right renal pelvis. Past history disclosed ureterolithotomy (right) with ureteric stenting 10 years back in K.S.A, but the patient subsequently did not remain in follow up due to poverty & ignorance. Vesicolithotomy & perivesical extraction of the prolapsed stent was performed on 10/11/2004 followed by indwelling catheterization. He had an uneventful post-operative recovery. The patient was discharged on 23/11/04 with advice for PCNL or ESWL, cystoscopic removal of proximal stent on a subsequent opportunity.



Fig-1 : Abdul Jalil, stent induced vesical calculus

Key Word : Foreign body induced secondary vesical calculus.

Introduction

A secondary vesical calculus develops in the presence of infection, bladder outflow obstruction, impaired bladder emptying or a foreign body such as non-absorbable sutures, metal staples or catheter fragments. Until twentieth century, vesical calculus was one of the most prevalent disorders among the poor, and the incidence was especially high in child hood & adolescence².

Though foreign bodies like hairpins, manicure stocks, hair clasps, non-absorbable suture & candle wax induced vesical calculus is not uncommon but stent induced vesical calculus is of rare incidence. It may be due to illiteracy, ignorance, poor socio-economic status and poor health education among the population.

1. **Dr. Mohammed Ali**, M.B.B.S, M.C.P.S, F.C.P.S (Surgery) Professor (C.C) and head of the department of surgery. (M.B.M.C.H)
2. **Dr. A. K. M. Afzal Miah**, (Lt. Col. Rtd.). M.B.B.S, F.C.P.S (Surgery) Assistant professor of surgery, (M.B.M.C.H)
3. **Dr. K.A.K. Md. Shalahuddin**, M.B.B.S (C.U) Registrar of surgery (M.B.M.C.H)
4. **Dr. Sattar Mohammad Sumon**, M.B.B.S (D.U) Assistant registrar of surgery (M.B.M.C.H)
5. **Dr. A.B.M. G. Kibria**, M.B.B.S (C.U) Assistant registrar of surgery (M.B.M.C.H)
6. **Dr. Fakhru Amin Mohammad Hasanul Banna**, M.B.B.S (D.U) Assistant registrar of surgery (M.B.M.C.H)

Case Report

Md. Abdul Jalil, age 60 years from Deopara, Tongi, Gazipur reported to SOPD, MBMCH, Uttara, Dhaka on 08/11/04 with H/o coming out of a plastic tube through external urethral meatus for one month associated with dull suprapubic pain, burning & frequency of micturition of several months. He had a H/o ureterolithotomy (right) 10 years back in K.S.A but dropped out from subsequent follow up and possessed no medical documents with him. After clinical examination, laboratory & radiological investigations, it revealed that he had a dislodged part of a stent whose proximal coiled end acted as nidus for vesical calculus & distal part protruded through external urethral meatus. Then vesicolithotomy & perivesical extraction of stent was carried out on 10/11/2004 followed by indwelling catheterization. He had associated left nephrolithiasis and fragmented proximal part of the stent in right renal pelvis for which he needs further management.

Discussion

The urothelium is subjected to hyperplasia, metaplasia & dysplasia under a variety of circumstances like infection, non-specific inflammation by calculi & other foreign body, radiation exposure and a variety of excretory end products of drugs and chemicals. Factor leading to these changes may, if continued, contribute to cancer formation³. Secondary calculi usually complicate vesical outlet obstruction and increase the P.V.R., predisposed to infection; 90% of these affected are male. Other causes of bladder straining, neurogenic bladder & bladder diverticulum also predispose to stone formation. They are common in vesical Schistosomiasis or Radiation cystitis⁴. Foreign body in urinary bladder may act as a nidus for precipitation of urinary salts & stone formation².

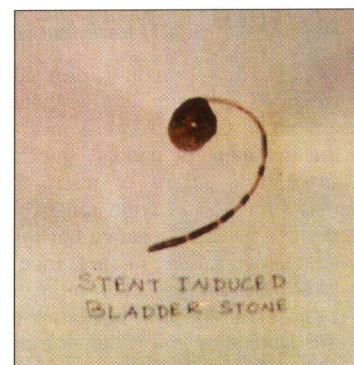


Fig-2 : Stent induced vesical calculus

Treatment of foreign body bladder/ vesical calculi is to give symptomatic relief & prevent complications like haematuria, infection, stone formation, perforation & malignant transformation of the bladder epithelium.

Conclusion

Counseling of the patient is of much importance in this regard, as most of our patients are ignorant, illiterate & very much shy.

References

1. R. F. Rintoul, Faarquharsons' Text Book of Operative Surgery, 8th edition, Page - 629.
2. Charles V. Mann, R. C. G. Russell, Norman S. Williams, Bailey & Loves' Short Practice of Surgery, 23rd edition, Page - 1046, 1214, 1217.
3. Ramzi S. Cotran, Vinay Kumar, Stanley L. Robbins, Robbins' Pathologic Basis of Disease, 5th edition, Page - 997.
4. Lawrence W. Way, Gerard M Doherty's Current Surgical Diagnosis & Treatment, 11th edition, Page - 1046.

Launching of New Products

Onium Tablet

Tiemonium Methylsulphate INN 50 mg

Freedom from VISCERAL PAIN

Onium (Tiemonium Methylsulphate INN) is a novel antispasmodic with excellent safety and well tolerability profile. It has higher antispasmodic activity & unlike most other antispasmodic drug Onium does not exhibit atropinic, central, ocular effect. Onium is indicated for treatment of gastroenteritis, diarrhoea, dysentery, biliary Colic, enterocolitis, cholecystitis, colonopathies, mild cystitis. Onium is the drug of choice for the treatment of spasmodic dysmenorrhoea. It is presented in the form of 50 mg tablet. The usual dosage is 2-6 Tablets (100-300mg) daily in divided doses as required. Onium is the most economic brand in Bangladesh: MRP of Onium is TK.4.00/tablet.



Pedicef

Cefpodoxime proxetil 50 ml suspension

Safe solution to RTI for infants and children

Pedicef (Cefpodoxime proxetil) is an orally administered, extended spectrum, semi-synthetic 3rd generation Cephalosporin antibiotic. Cefpodoxime is indicated for the treatment of patients infected with susceptible strains of microorganism, which include a wide range of gram-positive & gram-negative bacteria. As it is highly stable in presence of β -lactamase enzyme, it is more effective against gram-positive bacteria than other 3rd generation oral Cephalosporins. It is indicated for the treatment of upper respiratory tract infections, Lower respiratory tract infections, urinary tract infections including gonorrhoea, Skin & soft tissue infections, gynecological infections, Acute otitis media, childhood infections. Pedicef is presented in the form of 50 ml suspension and it offers most tasty Suspension (with pine apple flavour) among the available Cefpodoxime suspension. The dose of Pedicef suspension may be given to patients without regard to meal. The recommended dosage is 12 hourly as follows: 15 days to 6 months - 4mg/kg body wt, 6 months to 2 years - 40 mg/day, 3 years to 8 years - 80 mg/day, over 9 years - 100 mg/day. The strength of Pedicef is 40mg/5ml and MRP TK.80.00/phial. This is the most economic Cefpodoxime brand in Bangladesh.



Pedicon

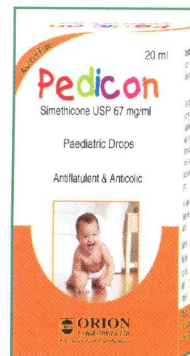
Simethicone USP 67 mg / ml

.....No more Cry

Pedicon (Simethicone USP) is effective for treating flatulence and infant colic with pleasant taste and flavor. It is indicated for flatulence, abdominal discomfort, fullness, gas and windy colic.

Pedicon is also indicated for large bowel preparation before colonoscopy, treatment of poisoning as an antifoaming agent.

Usual dosage in children less than 2 years of age: 0.3 ml Pedicon drops (20 mg) 4 times daily up to 3.6 ml (240 mg) / day. Children: 2 - 12 years of age: 0.6 ml Pedicon drops (40 mg) 4 times daily. Adult: 0.6 - 1.2 ml Pedicon drops (40 - 80 mg) 4 times daily, up to 7.5 ml (500 mg) / day. Pedicon is presented in the form



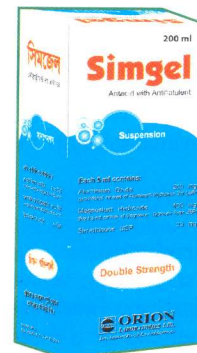
of 10 ml to minimize wastage and 20 ml with which patient can save up to Tk.10 of the cost. Price: Pedicon 10 ml drop @ Tk. 25 / phial and Pedicon 20 ml drop @ Tk. 30 / phial.

Simgel

Antacid with antifatulent suspension

Highly palatable antacid with antifatulent suspension

Simgel is highly palatable with widely accepted orange flavor, double strength, and sugar free suspension. Simgel is indicated for hyperacidity, dyspepsia, heartburn, gastritis, gastric and duodenal ulcer, and relief of flatulence, abdominal distention and windy colic. Dosage is 1- 2 teaspoonful of Simgel suspension one hour after meal and at bedtime or as directed by the physician. Simgel is presented as 200 ml suspension in amber glass bottle. MRP: Tk. 50 / phial.

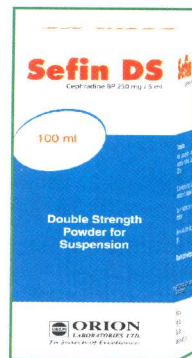


Sefin DS

Cephadrine BP 250 mg / 5 ml

The double strength weapon to treat bacterial infections

Sefin DS (Cephadrine BP) is a first generation cephalosporin antibiotic, which is highly effective for the treatment of respiratory tract infections (RTIs) skin & soft tissue infections (SSTIs) and urinary tract infections (UTIs). According to BNF 48, the usual dose for children is 25 to 50 mg/kg/day given in 2 to 4 equally divided doses. Sefin DS is introduced in two pack size: 50 ml & 100 ml. The strength of Sefin DS is 250 mg / 5 ml. Price: Sefin DS 50 ml @ Tk.60 / Phial, Sefin DS 100 ml @ Tk.120 / phial.

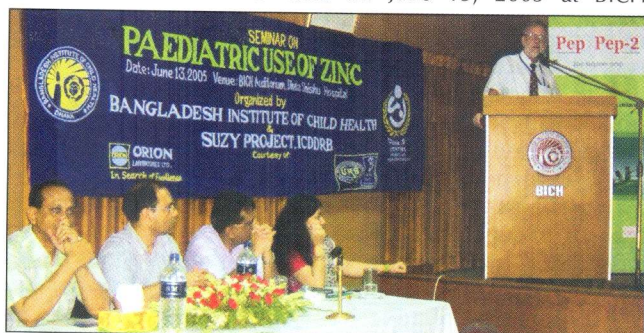


MSD NEWS

Medical Services Department (MSD) a triggering wing of marketing division of ORION Laboratories Limited (OLL) uprighing the company image through arranging CME programs among the doctor's community. On that sequence MSD personnel is arranging seminars/ Clinical Meetings /Intern Doctors Reception program in various venues of all over Bangladesh during this journal quarter.

Venue : BICH Auditorium, Dhaka

A grand seminar was sponsored by Orion Laboratories Limited on "Paediatric Use Of Zinc" held on June 13, 2005 at BICH

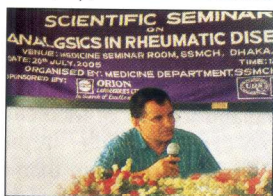


From left to right : Dr. Md. Selimuzzaman, Prof. Dr. Syed Khairul Amin, Prof. Md. Salim Shakur & Dr. Charles P. Larson (on stage)

Auditorium, Dhaka Shishu Hospital which was jointly arranged by BICH & SUZY project of ICDDR,B. Director of SUZY project, Dr. Charles P. Larson delivered the key note speech. Prof. Dr. Syed Khairul Amin, Academic Director, BICH chaired the occasion. Prof. Md. Salim Shakur, Director, Dhaka Shishu Hospital was the chief guest of the seminar. Dr. Md. Selimuzzaman (Asso. Prof., BICH) Prof. Md. Sirajul Islam, BICH; Prof. M.A. Kashem Sarkar, BICH; Dr. S.K. Roy, Scientist, ICDDR,B; Mr. Tapan Kumar Roy, Marketing Manager, OLL were the speakers of the session.

Venue: Medicine Seminar Room, SSMC & MH, Dhaka

Orion Laboratories Limited arranged a scientific seminar on "Analgesics in Rheumatic Diseases" on 20th July, 2005 at Medicine seminar room, Sir Salimullah Medical College & Mitford Hospital organized by Medicine department, SSMCH. Prof. M.A. Azhar, Head of the department, Medicine, SSMC & Mitford Hospital, chaired the occasion. Dr. Matiur Rahman, Asso. Professor, Dept. of Medicine, SSMC & Mitford Hospital was the key note speaker. About two hundred doctors were attended the seminar and shared the valuable discussion.



Venue: Sea Shell Restaurant, Uttara, Dhaka

Orion Laboratories Limited arranged a scientific seminar on "Zinc & Its Importance In Bangladesh" on 8 May, 2005 at Sea Shell Restaurant organized by AICHI Hospital, Uttara. Dr. Md. Moazzem Hossain, Managing Director of AICHI Hospital chaired the session. Dr. Kazi Anisur Rahman Roman, MA, OLL was the speaker of the session. Mr. Tapon Kumar Roy, Marketing Manager, OLL was present in the meeting.



Venue : Faridpur Medical College Hospital, Faridpur

A seminar was arranged by MSD, Orion Lab. Ltd. on "Role of combination therapy in hypertension" at Medicine unit, Faridpur Medical College Hospital on 11th July, 2005. Dr. Md. Enamul Karim, Asso. Professor of Medicine, FMCH chaired the session. Dr. Md. Aftabuddin, Superintendent, FMCH was the chief guest and Dr. Mostafizur

Rahman, Asst. Prof. of Cardiology, FMCH was the special guest. Dr. S.K. Yunus Ali, Asst. Prof. Of Cardiology and Dr. Md. Yusuf Ali, Asst. Prof. FMCH were the speaker of the session.

Venue: Muladi Thana Health complex, Barishal

Orion Laboratories Ltd. arranged a RTM on "Role of Zinc on human body" at Muladi THC on 9th May, 2005. Dr. Foqrul Islam, THA chaired the meeting. Dr. Md. Selim, RMO discussed on the topic. About eighteen doctors took part in the meeting.

Venue: Hotel Kausturi, Comilla

Orion Laboratories Limited arranged a scientific seminar on "Zinc & Its Importance In Bangladesh" on 10 May, 2005 at Kausturi hotel, Comilla organized by Diabetic Hospital, Comilla. Dr. Nazrul Islam was the speaker of the session.



Venue: Nanking Community Centre, Rajshahi

An Internee reception program of Rajshahi Medical College Hospital held on 14th May, 2005 at Nanking Community Centre, Rajshahi. It was organized by Orion Laboratories Limited. About two hundred new doctors were present in that program.



Venue: Parjatan Motel, Rangpur

Orion Laboratories Limited arranged a grand gala internee reception program on 22nd June, 2005 at Parjatan Motel, Rangpur which was organized by Intern Doctors Association (IDA) 2005-06, Rpmch. About two hundred doctors were participated in that program. Dr. G.M. Raihanul Islam, Medical associate, Orion Laboratories Limited gave the welcome speech on the session.



Venue: Niamotpur, Thana Health Complex, Naogaon

Orion Laboratories Limited arranged a round table meeting on "PEP-20" on 9 May, 2005 at Niamotpur Thana Health Complex. Dr. A.K.M. Nurul Islam (THA) discussed on the topics.



Venue : Chawgacha Thana Health Complex, Jessore

Orion Laboratories Limited arranged a round table meeting on "Vertex & Onium" at Chawgacha T.H.C. on 16th July, 2005. THA Dr. Salauddin Khan chaired the occasion.

Venue: Narail Sadar Hospital, Narail

A RTM was arranged by MSD, Orion Lab. Ltd. on 21st June at Narail Sadar Hospital on "Role of Zinc And Its Importance".

Venue: Modhukhali Thana Health Complex, Faridpur

Orion Laboratories Ltd. arranged a RTM on "Role of Zinc" at Modhukhali, Faridpur on 13th July, 2005. Dr. Golam Mostofa, THA, Modhukhali was chaired the meeting. Dr. Taposh Kumar, Medical officer was the key note speaker. About thirty doctors took part in the seminar.

Venue: Seminar Room, Sher-E-Bangla Medical College, Barishal

Orion Laboratories Ltd. arranged a RTM on "Injectables of Orion" at Surgery Department of SBMCH on 17th July, 2005. Dr. A. K Mostaq chaired the meeting. Dr. Zahid Hossain, was the key note speaker. About thirty doctors took part in the meeting.

Venue: Bhandaria Thana Health complex, Pirojpur

Orion Laboratories Ltd. arranged a RTM on "Role of Zinc on human body" at Bhandaria THC on 25th May, 2005. Dr. Akram Uddin Akon, THA chaired the meeting. Dr. Biswanath Halder, RMO was the key note speaker. About twenty doctors took part in the meeting.

Venue: Wave Community Center, Dorsona, Chuadanga

Orion Laboratories Ltd. arranged a RTM on "Role of Zinc on human body" organized by Dorsona THC on 8th June, 2005. Dr. Abdul kashem, Ex-T.H.O chaired the meeting.

The rest of the MSD news at page -314

Medi News

Zinc or gold, which is most valuable ?

According to Ananda S. Prasad, MD, PhD, at Wayne State University, the Western world's shift from consumption of meat proteins to cereal proteins containing high levels of fibers known as phytates may precipitate a general increase in zinc deficiency. Other known causes of zinc deficiency in man include malabsorption syndrome, being an athlete, frequent ejaculation (most often by homosexuals), excessive alcohol intake, fasting, institutional diets, illegal drug use, chronic diseases (including sickle cell anemia, Wilson's disease, renal and liver diseases), lack of zinc in food crops grown in zinc depleted soils, a poor diet, dependence on processed foods, vegetarianism, and long term exposure to environmental toxins.



DANGERS OF ZINC DEFICIENCY : Continued increase in zinc deficiency may be dangerous to humanity because dietary zinc deficiency dependent upon severity and other factors can result in: (a) primary T-cell lymphocyte immune system dysfunction (b) inability to protect cell membranes from organisms & toxins (c) poor appetite (d) mental lethargy, (e) abnormal neurosensory changes, (f) chronic diarrhea, (g) growth failure (h) vision problems, (i) fertility problems (j) essential hypertension, (k) angina pectoris, (l) ischemia of effort, (m) delayed wound healing, (n) free radical damage, (o) frequent opportunistic infections, (p) scleroderma, (q) systemic scleroderma (including lethal pulmonary hypertension), (r) respiratory and skin allergies, (s) asthma, (t) premature aging, (u) loss of hair color, (v) anemia, (w) striae (stretch marks), (x) joint pain, (y) loss of taste, and (z) birth defects. It is probable that each of these disorders will respond to, be prevented by, or be cured by daily therapeutic doses of zinc (ten times the U.S. RDA 15 mg for zinc).

SIGNS OF ZINC DEFICIENCY : One easily recognized sign of zinc deficiency is white spots, bands, and lines on finger nails. An occasional white spot is usually evidence that the immune system overcame a bacterial or some other systemic infection, and is a positive, not negative sign. Some women will have multiple parallel white bands or lines on their fingernails marking menstrual cycles in marginal zinc deficiency. According to some biomedical researchers, human zinc deficiency may be correctable only by a therapeutic intake of 100 to 150 mg zinc per day taken orally for a few months.



ZINC OR GOLD, WHICH IS MOST VALUABLE ? Of potentially extreme importance to humanity, in test animals zinc deficiency induced a chronic immunosuppression that persisted through the third generation of their offspring. If this is also the case for zinc-deprived humans, humanity faces a bleak future filled with disease. Consequently, zinc may be far more valuable to humanity than the most precious of metals gold. www.zincworld.org

Eating breakfast cuts calories and heart risk

Skipping breakfast may put you on the fast track to weight gain and heart disease, according to a new study. Researchers found that healthy women who skipped breakfast for two weeks ate more during the rest of the day, developed higher "bad" LDL cholesterol (search) levels, and were less sensitive to insulin (search) than women who ate breakfast every day. High LDL cholesterol levels and impaired insulin sensitivity are both major risk factors for heart disease (search). Although previous studies on the effects of eating or skipping breakfast in obese people may have produced conflicting results, researchers say the findings of this study show that skipping breakfast may lead to weight gain as well as increase the risk of heart disease in healthy people over time. Researchers say skipping breakfast has become more common among adults in recent years, perhaps due to efforts to lose weight or time pressures in the morning. But at the same time, the prevalence of obesity and overweight has also dramatically increased. google.com



Breakfast table

Herbal remedy fails to treat or prevent colds

Being sick with a cold is nothing to sneeze at, but new research finds that taking the popular herbal remedy echinacea does nothing to treat or prevent it. The federally funded study was what fans and foes of such substances say they have long needed - rigorous, scientific testing. It found that patients who took an echinacea plant extract fared no better than those who took a dummy treatment. "Our study adds to the accumulating evidence that suggests that the burden of proof should lie with those who advocate this treatment," wrote Dr. Ronald Turner of the University of Virginia School of Medicine, who led the study, which appeared in Thursday's New England Journal of Medicine. Echinacea, or purple coneflower, is sold over-the-counter in pills, drops and lozenges. With reported annual sales of more than \$300 million, echinacea is one of the most popular medicinal herbs used by people to treat colds. Several animal studies and small human trials have pointed to the possible benefit of the herb in preventing respiratory infections. However, one of largest studies - involving 407 children in 2003 - found that echinacea failed to alleviate cold symptoms and even caused mild skin rashes in some cases. In the newest experiment, researchers recruited 399 healthy patients who got one of three laboratory-made echinacea plant extracts or a dummy preparation. The patients were then exposed to the cold virus and their symptoms were evaluated. Scientists found no difference in infection rates between the groups who received the herb or placebo. About 90 percent in both groups wound up becoming infected. Symptoms like sneezing, runny noses and sore throat were also about the same, with more than half in both groups showing classic signs of a clinical cold. The study was funded by the National Center for Complementary and Alternative Medicine, part of the federal National Institutes of Health. Turner, the lead researcher, has consulted for various antibiotic makers. In an accompanying editorial, Dr. Wallace Sampson, an emeritus clinical professor of medicine at Stanford University School of



Herbal plants

Medi News

Medicine, questioned why the government is wasting tax dollars on funding alternative medicine studies, some of which have turned out to be nothing but snake oil. "Research into implausible remedies rarely produces useful information," wrote Sampson, who was not connected to the study. But Mark Blumenthal, executive director of the American Botanical Council, an independent group that studies herbs, said people should not dismiss echinacea as a cold remedy. Blumenthal pointed out that the extract used in the latest study was prepared in the lab and not sold in stores. He also added that the herb might work better if higher doses were used. "This is not a definitive trial on the efficacy of echinacea, nor should the results be generalized to echinacea preparations widely available," he said. cnn.com/health

'Haldi' may hold the cure for cancer

Haldi, blocks a key biological pathway needed for development of melanoma and other cancers, say researchers from The University of Texas M. D. Anderson Cancer Centre. The study shows how haldi stops laboratory strains of melanoma from proliferating and pushes the cancer cells to commit suicide. The study is the latest to suggest that haldi has potent anticancer powers, say the researchers. "The antioxidant, anti-inflammatory and anti-carcinogenic properties of haldi derived from turmeric are undergoing intense research here and at other places worldwide," said one of the study's authors, Bharat B. Aggarwal, Ph.D., professor of cancer medicine in the Department of Experimental Therapeutics. While researchers had thought haldi primarily has anti-inflammatory properties, the growing realization that cancer can result from inflammation has spurred mounting interest in the spice as an anti-cancer agent, Aggarwal says. He adds that another fact has generated further excitement: "The incidence of the top four cancers in the US - colon, breast, prostate, and lung - is ten times lower in India," he says. He said that an ability to suppress numerous biological routes to cancer development is important if an agent is to be effective. "Cells look at everything in a global way, and inhibiting just one pathway will not be effective," says Aggarwal. reuters.com/health



Haldi helps against cancer

Tobacco smoke dulls child brains

Exposure to even low levels of tobacco smoke in the home was linked to lower test results for reading and maths. The greater the exposure, the worse the decline was, the US Children's Environmental Health Center team found among nearly 4,400 children. The findings support calls to ban smoking in public places, they told Environmental Health Perspectives. Although they did not look at the effects over time as the children grew up, the researchers took into account other individual differences that might have skewed the results, such as parental education. School skills The study was based on data gathered between 1988 and 1994 to give a snapshot of the health of people in the US at that time. To measure exposure to environmental tobacco smoke, the scientists measured levels of cotinine, a substance produced when nicotine is broken down by the body. Cotinine can be measured in blood,



Smoking can reduce brain's capacity

urine, saliva and hair. Children aged between six and 16 were only included in the analysis if their blood cotinine levels were at or below 15 ng/ml - a level consistent with environmental tobacco smoke exposure - and if they denied using any tobacco products in the previous five days. Dr Kimberly Yolton's team then looked at the children's cognitive and academic abilities in relation to skills such as maths, reading, logic and reasoning. There was, on average, a one-point decline in reading scores for each unit increase in cotinine at levels above 1 ng/ml. Furthermore, there was a five-point decline for each unit increase in cotinine at levels below 1 ng/ml, suggesting that even low levels of exposure to tobacco can impair brain function. ABC Science Online

Fruit helps eyes stay healthy

Bananas, oranges, and other fruits may reduce the risk of developing age-related macular degeneration, the leading cause of blindness among older people. Scientists have found that people who ate at least three daily servings of fruit had a 36 percent lower risk of developing age-related macular degeneration (AMD) than people who ate fewer than 1.5 servings a day. More surprisingly, vegetables, vitamins and carotenoids, the compounds responsible for red, yellow and orange pigment in some fruits and vegetables, did not appear to affect the risk. Although the findings need to be replicated, the study can still serve as a green light to eat fruit. "Fruit intake has been related to reduced cardiovascular disease and certain forms of cancer," said the study's lead author, Eunyoung Cho, an epidemiologist at Brigham and Women's Hospital and an instructor in medicine at Harvard Medical School, both in Boston. "I think it's still OK to say this is one more reason to eat fruit." reuters.com/health



Fruits help eye-health

Tooth-brushing 'cuts heart risk'

Brushing your teeth could reduce the risk of having a stroke or heart attack, a study has suggested. A team from Columbia University found people with gum disease were more likely to suffer from atherosclerosis - a narrowing of blood vessels. The condition can precede a stroke or heart attack. The British Dental Association said the research, published in the journal *Circulation* underlined the importance of looking after dental health. The Columbia researchers looked at levels of bacteria in the mouths of 657 people who had no history of stroke or myocardial infarction (heart attack). The researchers also measured the thickness of the subjects' carotid artery, which carries blood from the heart to the brain, and which is measured to identify atherosclerosis. It was found that those people who had a higher level of the specific bacteria that causes gum (periodontal) disease also had an increased carotid artery thickness, even after taking other cardiovascular risk factors into account. The team also found that the link with atherosclerosis only existed for the bacteria which was known to cause gum disease, and not other bacteria found in the mouth. bbc.com/health



Regular tooth-brushing is essential for health

Information for Authors

The followings are the minimum requirements for manuscripts submitted for publication

The **MANUSCRIPT** should be prepared according to the modified Vancouver style as proposed by the International Committee of Medical Journal Editors (ICMJE). The entire uniform requirements document was revised in 1997 which is available in the Journal of American Medical Association (JAMA, 1997; 277:927-934) and is also available at the JAMA website. Sections were updated in May 1999 and May 2000. A major revision is scheduled for 2001. The following section is based mostly on May 2000 update.

THREE COPIES of the manuscript should be sent in a heavy paper envelope. Manuscripts must accompany a covering letter signed by all authors. This must include (i) information on prior or duplicate publication or submission elsewhere of any part of the work as defined earlier in this document; (ii) a statement of financial or other relationships that might lead to a conflict of interest; (iii) a statement that the manuscript has been read and approved by all the authors, that the requirements for authorship have been met; and (iv) the name, address, and telephone number of the corresponding author, who is responsible for communicating with the other authors about revisions and final approval of the proofs. The letter should give any additional information that may be helpful to the editor.

A 1.44 MB 3.5 inch good quality **FLOPPY DISK** or **CD** must accompany the printed copies of the manuscript containing an electronic copy of the manuscript prepared in Microsoft Word 6.0 or later version.

PREPARE MANUSCRIPT AS PER THE FOLLOWING GUIDELINES

DOUBLE-SPACE all parts of manuscripts. **TYPE** or **PRINT** on only side of the paper. Number pages consecutively, beginning with the title page. Put the page number in the upper or lower right-hand corner of each page.

BEGIN, ON A NEW PAGE, each section or component with following sequence: title page, abstract and key words, text, acknowledgments, references. Tables, figures and illustrations may be positioned within the text where they should appear.

The **TEXT** of observational and experimental articles is usually divided into sections with the headings of Introduction, Methods, Results, and Discussion. Long articles may need subheadings within some sections (especially within the Results and Discussion sections) to clarify their content. Other types of articles, such as case report, review, and editorial, are likely to need other formats.

The **TITLE PAGE** should carry (i) the title of the article, which should be concise but informative; (ii) the name by which each author is known, with his or her highest academic degree and institutional affiliation; (iii) the name of the department and the institution to which the work should be attributed; (iv) disclaimers, if any; (v) the name and address of the author responsible for correspondence concerning the manuscript; and (vi) sources of support in the form of grants, equipment, or drugs.

The **ABSTRACT** should be in second page and should usually be not more than 150 words for unstructured abstracts or 250 words for structured abstracts. The structured abstract should have following sections: (i) objective(s), (ii) methods, (iii) year and place of work, (iv) results, and (v) conclusion. The abstract should state the purposes of the study or investigation, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific data and their statistical significance, if possible), and the principal conclusions. It should emphasize new and important aspects of the study or observations.

Below the abstract, authors should provide 3 to 10 **KEY WORDS** or short phrases that will assist indexers in cross-indexing the article and that may be published with the abstract. Terms from the medical subject headings (MeSH) list of Index Medicus should preferably be used.

Introduction should state the purpose of the article and summarize the rationale for the study or observation. Give only strictly pertinent references and do not include data or conclusions from the work being reported.

In **METHODS**, describe your selection of the observational or experimental subjects (patients or laboratory animals, including controls) clearly. Identify the age, sex, and other important characteristics of the subjects. Identify the methods, apparatus (give the manufacturer's name and address in parentheses), and procedures in sufficient detail to allow other workers to reproduce the results. Give references to established methods, including statistical methods; provide references and brief descriptions for methods that have been published but are not well known; describe new or substantially modified methods, give reasons for using them, and evaluate their limitations. Precisely identify all drugs and chemicals used, including generic name, dose, and route of administration. Reports of randomized clinical trials should presents information on all major study elements including the protocol (study population, interventions or exposures, outcomes, and the rationale for statistical analysis), assignment of interventions (methods of randomization, concealment of

allocation to treatment method of masking (blinding). Authors submitting review manuscripts are advised to include a section describing the methods used for locating, selecting, extracting, and synthesizing data.

In **Results** section, when data are summarized, specify the statistical methods used to analyze them. Present your results in a logical sequence in the text, tables, and illustrations. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Restrict tables and figures to those needed to explain the argument of the paper and to assess its support. Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables. Number tables consecutively in the order of their first citation in the text, and supply a brief title for each. Give each column a short or abbreviated heading. Place explanatory matter in footnotes, not in the heading. Identify statistical measures of variations such as standard deviation and standard error of the mean. Do not use internal horizontal and vertical rules. Be sure that each table is cited in the text. Figures should be professionally drawn and photographed. Supply raw data in separate page so that the figures may be redrawn. For x-ray films, and other material, send sharp, glossy, black-and-white photographic prints, usually 127 x 173 mm (5 x 7 in) but no larger than 203 x 254 mm (8 x 10 in).

In **DISCUSSION** emphasize the new and important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or other material given in the Introduction or the Results section. Include in the Discussion section the implications of the findings and their limitations, including implications for future research. Relate the observations to other relevant studies.

Link the **Conclusions** with the goals of the study, but avoid unqualified statements and conclusions not completely supported by the data. State new hypotheses when warranted, but clearly label them as such. Recommendations, when appropriate, may be included.

Acknowledgments may go as an appendix to the text, one or more statements may specify (i) contributions that need acknowledging but do not justify authorship, such as general support by a departmental chair; (ii) acknowledgments of technical help; (iii) acknowledgments of financial and material support, which should specify the nature of the support.

References should be numbered consecutively in the order in which they are first mentioned in the text. Identify references in text, tables, and legends by Arabic numerals in parentheses. References cited only in tables or figure legends should be numbered in accordance with the sequence established by the first identification in the text of the particular table or figure.

Use the style of the examples below, which are based on the formats used by the NLM in Index Medicus. The titles of journals should be abbreviated according to the style used in Index Medicus. Consult the List of Journals Indexed in Index Medicus, published annually as a separate publication by the library and as a list in the January issue of Index Medicus. The list can also be obtained through the library's web site (<http://www.nlm.nih.gov/>).

Avoid using abstracts as references. References to papers accepted but not yet published should be designated as "in press" or "forthcoming"; authors should obtain written permission to cite such papers as well as verification that they have been accepted for publication. Information from manuscripts submitted but not accepted should be cited in the text as "unpublished observations" with written permission from the sources.

Avoid citing a "personal communication" unless it provides essential information not available from a public source, in which case the name of the person and date of communication should be cited in parentheses in the text. For scientific articles, authors should obtain written permission and confirmation of accuracy from the source of a personal communication.

The references must be verified by the author(s) against the original documents.

The Uniform Requirements style (the Vancouver style) is based largely on an ANSI standard style adapted by the NLM for its databases. Notes have been added where Vancouver style differs from the style now used by NLM.

Measurements of length, height, weight, and volume should be reported in metric units (meter, kilogram, or liter) or their decimal multiples. Temperatures should be given in degrees Celsius. Blood pressures should be given in millimeters of mercury. All hematological and clinical chemistry measurements should be reported in the metric system in terms of the International System of Units (SI).

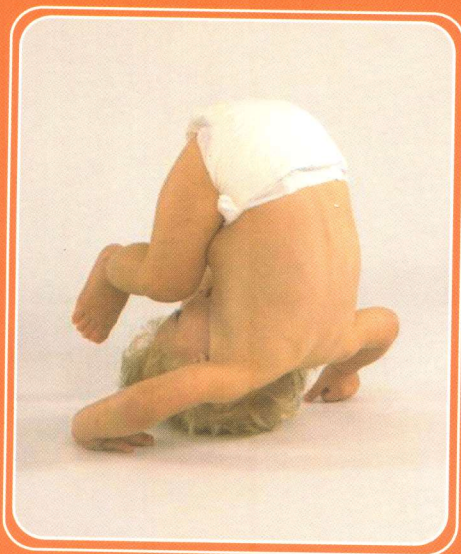
Use only standard **ABBREVIATIONS**. Avoid abbreviations in the title and abstract. The full term for which an abbreviation stands should precede its first use in the text unless it is a standard unit of measurement.

The **Chief Editor** reserves the right to style and format and to determine the priority and time of publication of the accepted article. An edited copy of the manuscript is to be sent to the corresponding author for approval. The author is responsible for all changes in the manuscript. Articles are to submit to **Executive Editor : The ORION**.

Pedicef

Cefpodoxime Proxetil

50 ml suspension



*Safe solution to RTI for
infants & children*

 **ORION**
LABORATORIES LTD.
In Search of Excellence

