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Editorial article (P-02) of this issue "Slit ventricle syndrome-Rare and unrecognized cause of headache in children with ventriculoperitoneal shunt". This article raises the awareness of this among primary caregivers of shunted children and it emphasizes the need to follow a strict management protocol to avoid treatment errors by Neurosurgeons.

The first original article (P-05) "Clinicopathological Evaluation of Asymptomatic Bacteriuria in Diabetes Mellitus Patients" .This study was conducted amongst diabetic adult males and females patients in tertiary care centre over period of twelve months. Purpose of this study was to observe the frequency of asymptomatic bacteriuria and common isolates among diabetic patients.

Second original article (P-10) "Recent pattern of antibiotic sensitivity in UTI in Pregnancy." This study describe a variance analysis which was done on E.coli isolated from urine samples. E.coli was the most common etiological agent of UTI in pregnancy with Enterococcus (Staphylococcus) gaining prominence.

Third original article (P-14) "Neonatal Sepsis: Analysis of causative pathogens and high resistance pattern to empirically used antibiotics in a Neonatal Intensive Care Unit of Bangladesh." This study contains the treatment of seriously ill neonatal sepsis patients by vancomycin or Linezolid for gram positive cocci and colistin for gram negative bacilli may be included in empirical therapy in NICU of DMCH.

Review article (P-21) "Smoker's cough-nothing but a Pre-COPD ".This study described that smoker's cough can be seen as the first step towards development of COPD.

Second review article (P-23) "PCOS in adolescent girl-how to manage?" Offering psychological support can be one of the most important aspects of managing PCOS.

A observational study (P-26) ,"Computed Tomography and Clinical Correlation of Acute Stroke Diagnosis" .This study was carried out to compare clinical diagnosis of stroke with computed tomography scan findings for ascertaining the exact type of stroke (Hemorrhagic or Ischemic).

Success is not a accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do. Thanks all of readers, contributors & reviewers for their continued support.

Good health and good sense are two of life's greatest blessings. May the Almighty bless you with good health, give you a healthy life.

DR. SINTHIA ALAM
Chief Editor
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The ORION Medical Journal 2018 July;20-2(44): p02-03

Slit ventricle syndrome - Rare and unrecognised cause of headache in children with ventriculoperitoneal shunt

Dr Hrishikesh Sarkar [1]

ABSTRACT

Ventriculoperitoneal shunt surgery (VPS) is a procedure with high complication rates. Neurologists and Paediatricians who are often the primary caregivers of shunted children along with Radiologists, may, fail to recognise Slit Ventricle Syndrome (SVS). SVS is rare and associated with refractory headache following VPS especially in children, which may appear deceptively "normal" on imaging. Given the myriad of hypothesis explaining SVS, even after diagnosis, its management re-mains challenging and sometimes elusive for Neurosurgeons too. Here a child aged four years is pre-sented, who was diagnosed to have SVS. Management thought process has been illustrated, which eventually led to a good outcome. This short report raises the awareness of this, known, but rare com-plication among primary caregivers of shunted children, and, at the same time, it emphasises the need to follow a strict management protocol to avoid treatment errors by Neurosurgeons.

Key words: *Slit ventricle syndrome, Ventriculoperitoneal shunt, Management, Diagnosis, Complica-tions, Paediatric Neurosurgery*

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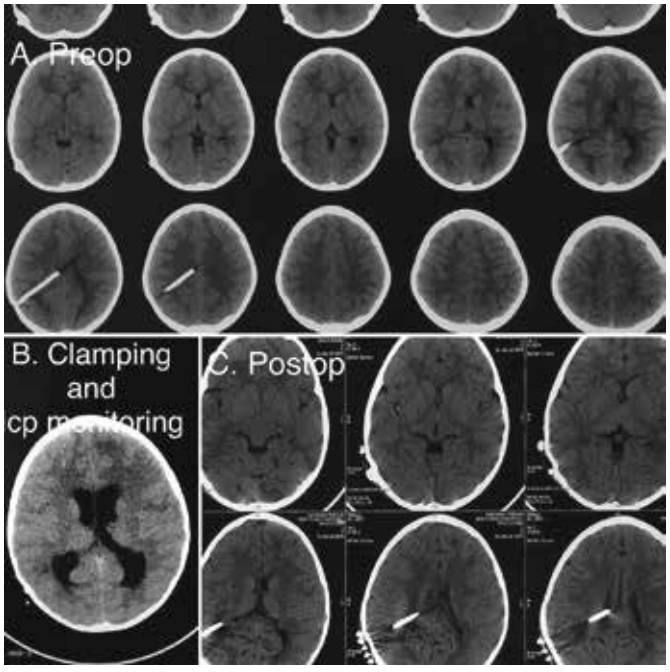
CASE REPORT

Four year old child presented with recurrent episodes of severe headache and vomiting for three weeks. The child had under-gone a right ventriculoperitoneal shunt (VPS) (Chhabra Medium Pres-sure) for post meningitic hydrocephalus at one month of age. Clinically, she had normal develop-mental milestones and there were no focal deficits. Computed tomog-raphy (CT) scan done elsewhere showed collapsed ventricles and shunt tube tip in the right lateral ventricle (Figure 1A). There was no evidence of craniocerebral disproportion (CCD). A lumbar puncture had been done elsewhere which was normal. The child was being managed elsewhere and started on steroids, mannitol with no benefit. Diagnosis of SVS was considered. The shunt tube was removed and the ventricular drain was connected to intracranial pressure (ICP) monitoring system. To ascertain shunt dependancy, ICP monitoring was done with the outflow kept clamped. ICP was found to be high >20 mm of Hg. Af-ter six hours of clamping of tube, the child developed bradycardia and recurrence of severe headache only to be matched with ICP surges of more than 30. Only minimal amount of CSF was released to get the symptoms better and to improve the heart rate. After 24 hours of of doing this and extremely close observation, CT was repeated (Figure 1B) that showed increased ventricular size with periventricular lucen-cies. It was clear at this juncture that the child was shunt depen-dant. The shunt was revised with a programmable valve with a high pressure settings (Medtronic Programmable Valve with Antisiphon Device). The became asymptomatic. Final CT showed opening of the cortical arachnoid spaces and better visualised ventricular size (Figure 1C). The child is being followed for two years with no recurrence of symptoms.

DISCUSSION

Correct identification of the cause of headache in SVS is complex and simple revision surgery (with or without programmable valve) may turn out to be non fruitful, if methodical steps outlined by the suggested protocol 1,2 is not undertaken. Multiple hypotheses have been put forward1, linked with either disorder of shunt mechanism, ventricular wall compliance, sinus thrombosis, craniocerebral dispropor-tion or shunt related migraine. First step is assessment of shunt outflow and this necessitates exteriorisation of shunt hardware. Thorough counselling with the patients/guardians is extremely crucial at this juncture about proposed management, possibili-ty of failure, resurgery and infection. The second step would be to gauge shunt de-pendancy, as some of these patients may not require shunt at all. As demonstrated in our case, this can be done by clamping the tube, doing intracranial pressure moni-toring if availa-ble , observing the clinical feature and imaging. Once shunt dependancy is established, pres-sure dynamics of the intaventricular compartment is assessed. In our case it was clear that the dilated ventricle led to raised ICP and headache pointing to intermittent proximal shunt ob-struction due to collapse around the shunt catheter. This issue was solved with



insertion of siphon device to prevent gravity assisted "run off" and keeping a higher valve pressure. Non opening of the ventricles with sustained raised intracranial pressure would mean, situation, akin to either idiopathic intracranial hypertension(IIH) or craniocerebral disproportion. If the imaging and clinical features are suggestive of crania cerebral disproportion (CCD) then the patient would require vault expansile surgery/foramen magnum decompression. In case of IIH like syndrome, lumboperitoneal shunt may be considered.

CONCLUSIONS

In patients with VP shunt who have headache and "normal" imaging doesn't rule out a dysfunction-al shunt tube. Possibility of slit ventricle syndrome must be considered. Simple revision of shunt may lead to erroneous management. Attempt should be made to identify and treat the underlying situation by adopting a systematic, protocol based intervention.

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FIGURE LEGENDS

Figure 1. A) Pre operative CT scan shows right ventriculoperitoneal shunt in situ with slit like ven-tricles and effacement of the cortical arachnoid spaces. B) CT image after clamping of the ventricular catheter and intracranial pressure monitoring. There is significant dilatation of the ventricles with con-comitant raised ICP>25 mm of Hg. C) CT after revision surgery and implantation of programmable valve with high setting and anti siphon device, showing physiological opening up of the ventricular system and cortical arachnoid spaces.

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Clinicopathological Evaluation of Asymptomatic Bacteriuria in Diabetes Mellitus Patients

Dr. Muhammad Ashraful Kabir [1], Dr. Dr.Prithwy Shankar Biswas[2], Dr. Nursarat Ahmed [3], Dr. Bappa Raj Dutta [4], Dr. Dilruba Yasmin [5]

ABSTRACT

Background: Asymptomatic bacteriuria, or asymptomatic urinary infection, is isolation of a specified quantitative count of bacteria in an appropriately collected urine specimen obtained from a person without symptoms or signs referable to urinary infection. Patients with diabetes mellitus (DM) have a high frequency of asymptomatic bacteriuria (ASB) and urinary tract infections (UTIs). The mechanism of pathogenesis for this association between DM and urinary tract infections (UTI) is not completely clear. However, it is suspected that the high glucose concentration in the urine of these patients may favour the growth of uropathogens. Early detection, strict glycemic control and proper treatment prevent the burden of asymptomatic bacteriuria.

Objectives: Purpose of this study was to observe the frequency of asymptomatic bacteriuria and common isolates among diabetic patients.

Materials & method: This cross-sectional study was conducted amongst diabetic adult males and females patients in tertiary care centre over period of twelve months. Sample was selected by purposive sampling technique. Inclusion criteria were all newly or previously diagnosed diabetic cases, aged 40 years and above, and who gave informed written consent for this study. Exclusion criteria were history of taking antibiotic within 14 days of the study, known urinary tract abnormalities & catheterization, have symptoms and signs of UTI, pregnancy, and fever due to any causes. Sample size was 72. Mid-stream urine samples were collected from these patients and subjected to culture. Detail demographic data were collected from the informant and recorded in structured case report form. Clinical examination and relevant investigation were done meticulously.

Result: Maximum number of patients 35(48.61%) were between 51-60 years age group, mean age was 56.04±18.08 yrs. Female patients were predominant, out of 72 cases 32(44%) were male and 40(56%) were female. In this study, 35 patients had history of UTI for 1-5 times, 26 patients had history 6-10 times of UTI. Midstream urine samples were collected from patients into sterile container for urinalysis. Cultures with colony counts ≥ 105 cfu/ ml were considered as significant bacteriuria. The present study showed that asymptomatic bacteriuria (ASB) was present in 57(79.16%) patients and E. coli was the most common pathogen isolated in this study 28(49.12%). Other isolates included Klebsiella pneumoniae 11(19.29%), Proteus sp. 6(10.52%) and Enterobacter sp. 5(8.77%).

Conclusion: Asymptomatic bacteriuria (ASB) is common in diabetic patients.The occurrence of asymptomatic bacteriuria in the older population and females was significant in this study. Asymptomatic bacteriuria may lead to albuminuria and urinary tract infection, and may warrant treatment in diabetics. So it is recommend screening for detection and treatment of ASB in diabetic patients should be routinely.

Key words: Asymptomatic bacteriuria (ASB), UTI, Diabetes mellitus.

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INTRODUCTION

Urinary tract infection is a serious problem in diabetic patient, and asymptomatic bacteriuria in these patients is risk factor for pyelonephritis and renal dysfunction. E. coli and K.pneumoniae are the most frequently isolated bacteria in these patients with ASB1. Diabetes causes several abnormalities of the host defense system that might result in a higher risk of certain infections, including UTI. These include immunologic impairments, such as impaired migration, intracellular killing, phago-

cytosis, and chemotaxis of polymorphonuclear leukocytes from diabetic patients, and neuropathic complications, such as impaired bladder emptying. In addition, a higher glucose concentration in the urine may create a culture medium for pathogenic microorganisms.

Diabetes has long term effects on the incidence of UTIs and has been reported to be around three to four times high in diabetic compared with non-diabetic patients. It has been suggested that presence of static pools of urine due to dysfunctional bladders contracting poorly serves as a favorable media for bacterial growth, while others suggest that hyperglycemic urine promotes rapid bacterial growth and colonization. Local secretion of cytokines and increased adherence of uropathogens to uroepithelial cells have been proposed to account for the greater prevalence of bacteriuria in diabetic persons. Various risk factors for ASB with diabetes have been suggested, including sexual intercourse, age, duration, metabolic control, and complications of diabetes. The most frequently isolated uropathogens include Escherichia coli, Klebsiella pneumoniae, Streptococcus agalactiae, Enterococcus faecalis, coagulase negative Staphylococcus and Streptococcus pyogenes. Although E. coliis known to be the most common uropathogen, other microorganisms are emerging with predominance in cases of ASB.

Asymptomatic bacteriuria is far more common in women than in men. Also, in women, this condition is commoner in diabetics, than in those without the disease. Anatomic and physiologic factors (such as a short urethra) are responsible for the higher susceptibility of females to these infections. It is not completely clear if symptomatic UTIs are preceded by asymptomatic bacteriuria. Complications from UTI, such as bacteremia, renal abscesses and renal papillary necrosis, are seen more commonly in patients with DM than in individuals without DM[2,3]. Diabetic subjects, especially women, show high prevalence of asymptomatic bacteriuria (ASB). The aim of the study was to evaluate the frequency of asymptomatic bacteriuria (ASB) in diabetic patients and to find out the antibiotic sensitivity pattern of bacterial isolates.

Additionally, renal involvement even without the presence of symptoms (such as subclinical pyelonephritis) is commoner in patients with DM. So, detection of UTI in diabetics becomes very important. ASB defined as persistently and actively multiplying bacteria in significant numbers (more than 10,0000 per milliliter) within the urinary tract without any obvious symptoms4. Asymptomatic bacteriuria is common in neonates, preschool children, pregnant women, elderly people, diabetics, catheterized patients and patients with abnormal urinary tracts or renal disease4.

Diabetes type 2, also known as non insulin dependent diabetes (NIDDM), is one of the two major types of diabetes in which the beta cells of the pancreas produce insulin but the body is unable to use it effectively because the cells of the body are resistant to the action of insulin[5,6,7]. Patients with diabetes have an increased risk of infections, with the urinary tract being the most prevalent infection site[6,8]. Besides, the rates of complications of urinary tract infection (UTI) and upper tract involvement are much higher than in the general population. Though there is currently no consensus on treatment of asymptomatic bacteriuria in various population groups, it is advisable to treat asymptomatic bacteriuria in DM, as these patients may progress to symptomatic UTI or develop complications of UTI. This study attempts to estimate the frequency of asymptomatic bacteriuria among diabetic patients who have no exclusion criteria.

METHODOLOGY

This is cross-sectional study was conducted amongst diabetic adult males and females patients in tertiary care centre over period of twelve months from (13.9.16 to 12.9.17). Sample was selected by purposive sampling technique. Inclusion criteria were all newly or previously diagnosed diabetic cases, aged 40 years and above, and who gave informed written consent for this study. After fulfilling the inclusion and exclusion criteria, patient were enrolled with unique ID. Subjects were briefed about the objectives of the study, risk and benefit, freedom for participating in the study and confidentiality. Informed written consent was obtained accordingly. Mid-stream urine sample was collected from these patients and subjected to culture. Urine was collected from the female subjects during their non-menstural periods. Culture was done using the semi-quantitative calibrated loop technique. Culture plate was read after 24 hours of incubation, and number and type of colonies were estimated in plates with growth. Plates with no growth were reincubated for an additional 24 hours, and checked again for growth. The isolate was then identified using standard microbiological techniques. Isolation of the same strain of bacterium from two consecutive samples of urine with quantitative counts greater than 105 colony forming units per millilitre in females, and growth of a single type of organism with quantitative count greater than 105 colony forming units per millilitre in males, was taken as evidence of asymptomatic bacteriuria. The data was analysed using the statistical software. All collected questionnaire checked very carefully to identify the error in the data. Data processing work was consisted of registration schedules, editing computerization, preparation of dummy table, analyzing and matching of data.

RESULT & OBSERVATION

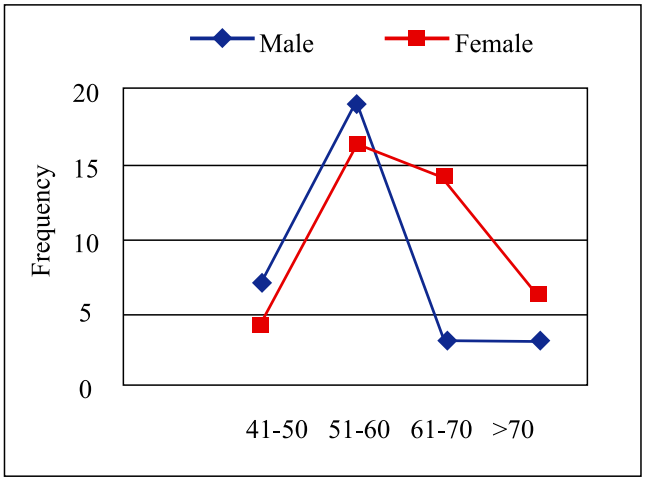
The age of participants at entry was >40years, mean age was 56.04±18.08. Participants were randomly selected on male and female subject. Female sex were significant number, sex ratio (F: M) was 1.25:1.

Table-I: Baseline characteristics of Study population (n=72)

Characteristics with Indicator	Result
Age in yr (Mean ± SD)	56.04±18.08
Sex ratio (F:M)	1.25:1
Occupation category (house wife)	29 (40.27%)
Duration of illness (yr)	>11 yr
Antiglycemic agent (injectable)	47 (65.27%)
Previous history of UTI (no of episodes)	1-5 times
Major risk factors	26 (36.11%)
Bacteria isolation (E.coli)	28 (49.12%)

The median self-reported duration of questionnaire completion was 70 minutes (range 50–90). Baseline clinical characteristics are: Occupation category (house wife) 29 (40.27%), Duration of illness (yr) were >11 yr, injectable agent observed commonest antiglycemic drugs 47(65.27%). Among the total 72 cases of patients, previous history of UTI (no of episodes) more than 1-5 times were maximum patients, major bacteria isolation (E.coli) observed in 28 (49.12%). (Table I)

Figure- 1: Frequency of ASB in age & sex variation (n=72)



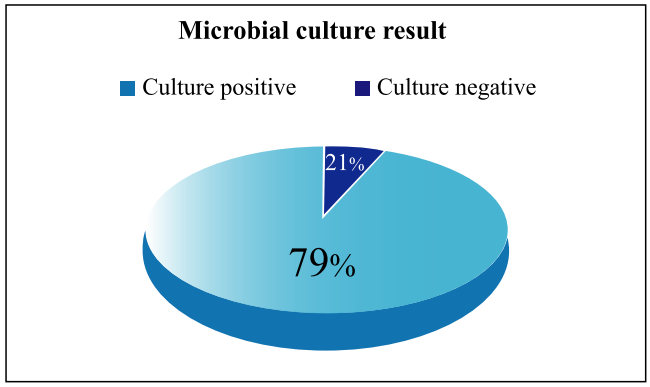
Frequency and susceptibility of asymptomatic bacteriuria in diabetes patients gradually increased with rising of age. Age ≤ 50 disease is insignificant. In case of female 51-70 years was highest incidence and in case of male 41 to 60 years observed peak age for asymptomatic bacteriuria. (Figure-1) Diabetes treated with insulin and diabetes of longer duration were related to substantial increases in the risks of UTI and asymptomatic bacteriuria. Higher risks of UTI and asymptomatic bacteriuria were seen the insulin-treated patients 47 (65.27%). (Table II)

Table-II: Trends of Antiglycemic agent amongst the subjects (n=72)

Antiglycemic agent	Number of Patients	Percentage
Oral	25	34.72
Insulin	47	65.27

Midstream urine samples were collected from patients into sterile container for urinalysis. Cultures with colony counts ≥ 105 cfu/ ml were considered as significant bacteriuria. The organisms were identified using standard cultural, morphological and biochemical techniques. We found that 57(79.16%) of urine samples had significant bacteriuria. (Figure-2)

Figure- 2: Microbial culture result (n=72)



Bacteria isolated in ASB and prevalence of the organisms revealed that, E. coli was found most prevalent, present in 28 (49.12%) of patients, followed by Klebsiella pneumoniae 11(19.29%), Proteus sp. 6 (10.52%) and Enterobacter sp. 5(8.77%). The least prevalent organisms were Streptococcus pyogenes, E. faecalis and S. saprophyticus. (Table III)

Table-III: Common isolated microorganism in ASB (n=57)

Organism	Frequency	Percentage
Escherichia coli	28	49.12
Klebsiella pneumoniae	11	19.29
Proteus sp.	6	10.52
Enterobacter sp.	5	8.77
Enterococcus faecalis	4	7.01
Staphylococcus aureus	2	3.50
Strept. saprophyticus	1	1.75

DISCUSSION

Our study design raises a number of important methodological issues, including patient selection, sample size and the prospective evaluation of frequency of asymptomatic bacteriuria among diabetic patients, all of which may exert a powerful influence on the results. Asymptomatic bacteriuria in patients with diabetes mellitus is the presence of a significant quantity of bacteria in a urine specimen properly collected from a person without symptoms or signs of UTI.

This study clearly demonstrated a high occurrence of asymptomatic bacteriuria in diabetics. This is in concurrence with a meta-analysis study published in 2011, which showed a similar rate among diabetics9. In this series, mean age was 56.04±18.08 yrs and female – male ratio was 1.25:1. Findings are consistent with other study. A hospital-based descriptive study revealed that, 42% patients with DM were found to have asymptomatic bacteriuria. Among these, 27 (64.29%) were female and 15 (35.71%) were male. Thus, the occurrence of asymptomatic bacteriuria among female diabetics was 54%, as opposed to 30% in males2. Singh L et al; showed that ASB was highest in age groups 45 - 49 in males and 35 - 39 in female in their study10. So all findings support that asymptomatic bacteriuria is far more common in women than in men.

Diabetes treated with insulin and diabetes of longer duration was related to substantial increases in the risks of UTI and asymptomatic bacteriuria. Patient taking insulin were mainly those at higher risk, possibly because of more severe diabetes, since the use of insulin may be a marker for disease severity. Risk of UTI was higher with increasing duration of diabetes. The present study showed that higher risks of UTI and asymptomatic bacteriuria were seen the insulin-treated patients 47(65.27%). Consistent with one other study, study in Group Health Cooperative of Puget Sound (GHC), revealed that higher risks of UTI and asymptomatic bacteriuria were seen in diabetic patients treated with medication, but statistical significance was observed only in the insulin-treated cases. Significantly higher risks of asymptomatic bacteriuria and UTI were seen among patients who had had diabetes for 10 or more years11.

Persistence of illness for long-term, more chance for infection. Long time suffering of diabetes causes several abnormalities of the host defense system that might result in a higher risk of infections, including UTI. These include immunologic impairments and neuropathic complications, such as impaired bladder emptying. In addition, a higher glucose concentration in the urine may create a culture medium for pathogenic microorganisms. Concomitant subsistence of any complication or risk factors plays important role for development of immunological suppression, ultimately contributes the asymptomatic illness.

In this study cultures with colony counts ≥ 105 cfu/ ml were considered as significant bacteriuria. The organisms were identified using standard cultural, morphological and biochemical techniques. We found that 57(79.16%) of urine samples had significant bacteriuria. Study in outpatient department of Chhattisgarh Institute of Medical sciences hospital, India showed that Mid-stream urines were collected from patients aseptically into sterile wide mouth container and examined microscopically. Significant bacteriuria was observed in forty-seven (36.15%) patients in their study, among them 34 females and 13 males10.

The present study showed that asymptomatic bacteriuria (ASB) was present in 57(79.16%) out of 72 patients with diabetes mellitus. This result was higher when compared to previous studies which showed 36.15% in India10, 17.88% in Turkey1, and 20% in Iran5. The population studies in these reports are comparable to the number of patients in this study. Some studies have even reported much lower values of between 5-15%. The variations in percentages of ASB have been attributed to factors such as geographical variations, ethnicity of the subjects and variation in the screening test. E. coli was the most common pathogen isolated in this study 28(49.12%). This is in contrast to the report of Singh L10 et al. where Escherichia coli (56.9%) was the most common isolates form, followed by Enterobacter sp. (12.7%), Klebsiella pneumoniae (8.5%) and Proteus sp. (6.3%).

In this study other bacteria isolated include Klebsiella pneumoniae 11(19.29%), Proteus sp. 6(10.52%) and Enterobacter sp. 5(8.77%). The result of this study is consistent with the majority of reports where E. coli had been reported to be the major pathogen in ASB1,5,10,12. This is why in general practice

most work on pathogenesis of UTI focuses on E. coli because of its high prevalence in UTI12. Although diabetic persons may be more susceptible to infection by uncommon organisms, we found most of their infections to be due to typical uropathogens, which suggests that diabetes facilitates the same route of infection as that for UTI in nondiabetic persons (i.e., ascending infection from the urethra). The finding that asymptomatic bacteriuria more often involved Klebsiella and Enterococcusin diabetic person suggests that defenses against these organisms may be reduced.

CONCLUSIONS

Acute Patients with diabetes mellitus (DM) are more prone to infection, and the urinary tract is one of the most commonly affected sites. In this study a high prevalence of ASB was established in elderly aged population and mainly female's gender. The main pathogen was E. coli and this organism is beginning to acquire resistance to some of the clinically used antibiotics. Study recommends improved personnel hygiene which is likely to reduce ASB that may be complicated in UTI. The use of irrational drugs, unprescribed antibiotics and their abuse is a problem and appropriate public health programmes would help resolve this issue. Facilities for prompt and adequate treatment of DM, UTI and screening should be available in all hospitals.

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The ORION Medical Journal 2018 July;20-2(44): p10-13

Recent pattern of antibiotic sensitivity in UTI in Pregnancy

Dr. Nahar MN [1] Dr. Dil Afroz [2]

ABSTRACT

Background

Urinary tract Infection (UTI) is among the most common infections described in outpatient setting and hospital patients. Although a variety of etiology is involved, Escherichia coli and other coliforms account for a large majority of these naturally acquired infections. The estimation of local etiology and susceptibility profile could support the most effective empirical treatment.

Method

The cross-sectional study was carried out from department of Obstetrics & Gynaecology, Jahurul Islam Medical College Hospital. Analysis was done on E. coli isolated from urine samples received during the study period (March 2016 to February 2017).

Results

Regarding sensitivity pattern of antibiotics, it was observed that 41.0% sensitivity was found for ceftriaxone, 52.0% for gentamycin, 51.0% for nitrofurantion, 47.0% for meropenem, 48.0% for piperacillin, 33.0% for cefuroxime and 33.0% for cotrimaxazole. Regarding resistance pattern of antibiotics, it was observed that 61.0% resistance was found for azithromycin, 31.0% for cephradine, 29.0% for ceftriaxone, 28.0% for cefuroxime.

Conclusion

E. coli was the most common etiological agent of UTI in pregnancy with Enterococcus (Staphylococcus) gaining prominence. Common symptomatic factors of UTI were dysuria, increased frequency, flank pain, hematuria and/or abdominal discomfort, urgency.

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INTRODUCTION

Urinary tract infection (UTI) is one of the most common bacterial infections in humans after respiratory tract infection. E.coli remains the leading uropathogen being responsible for UTI.1 Urinary tract infection (UTI) remains to be one of the most common infectious diseases diagnosed in developing countries and a widespread use of antibiotics against uropathogens has led to the emergence of antibiotic resistant species.[2] It is most often caused due to bacteria, but may also include fungal and viral infections[3]. Gram-negative bacteria cause 90% of UTI cases while gram-positive bacteria cause only 10% of the cases. The most frequent isolated uropathogen is Escherichia coli, accounting for 65%–90% of urinary tract infections.[4] The complication caused by urigenital infection and specifically by multidrug resistant microbes can cause serious problems for women especially during pregnancy although Pregnancy doesn't cause urinary tract infection (UTI) however; the physical changes occur during pregnancy increase susceptibility of pregnant women to infection.[5,6] Women in general tend to visit hospitals and gynecology clinic for routine checkup regardless of sign of infections[7,8]. Urinary tract infection, cystitis, vaginitis and pyelonephritis are the most common cause of urigenital infections.[7,9] UTI is defined as the presence of at least 100,000 organisms per milliliter of urine in an asymptomatic patient, or as more than 100 organisms/ml. of urine with accompanying pyuria (>5 WBCs/HPF) in a symptomatic patient.UTI diagnosis in asymptomatic patients particularly should be supported by a positive culture for an uropathogen.[10]

MATERIALS AND METHODS

The cross-sectional study was carried out from department of Obstetrics & Gynaecology, Jahurul Islam Medical College Hospital. Analysis was done on E. coli isolated from urine samples received during the study period (March 2016 to February 2017). Urine culture was done by standard loop method, a semi quantitative method. The organism isolated from urine culture was identified by conventional biochemical test. Antimicrobial susceptibility was done by Kirby–Bauer disc diffusion method on Mueller–Hinton agar and the interpretations were carried out according to the Clinical and Laboratory Standards Institute guidelines. Quality control of media and discs were performed using ATCC E. coli control strain. Antibiotics against which sensitivity was tested included nitrofurantoin, amikacin, gentamycin, cotrimoxazole, ciprofloxacin, norfloxacin and cefotaxime.

RESULTS

Out of 100 patients, majority 48(48.0%) patients belonged to age 21-30 years. The mean age was found 24.28±6.03 years. Most 44(44.0%) patients had gestational age 4-6 months. Sixty one (61.0%) patients were multigravida (Table I). The majority 89(89.0%) patients had dysuria, 51(51.0%) had increased frequency, 19(19.0%) had flank pain, 18(18.0%) had hematuria and/or abdominal discomfort, 15(15.0%) had urgency. Other results are depicted in the table (Table II). Figure 1 shows 74.0% of the patients had urine culture positive. Figure 2 shows majority 77.0% of the patients had E.coli, 22.0% had Staphylococcus aureus and 1.0% no growth. Regarding sensitivity pattern of antibiotics, it was observed that 41.0% sensitivity was found for ceftriaxone, 52.0% for gentamycin, 51.0% for nitrofurantion, 47.0% for meropenem, 48.0% for piperacillin, 33.0% for cefuroxime and 33.0% for cotrimaxazole. Regarding resistance pattern of antibiotics, it was observed that 61.0% resistance was found for azithromycin, 31.0% for cephradine, 29.0% for ceftriaxone, 28.0% for cefuroxime (Table -III).

Table I: Socio-demographic variables of the patients (n=100)

Socio-demographic variables	Number of patients	Percentage
Age (years)		
≤20	38	38.0
21-30	48	48.0
31-40	14	14.0
Mean±SD	24.28±6.03	
Gestational period (month)		
1-3 months	26	26.0
4-6 months	44	44.0
7-9 months	30	30.0
Gravida		
Primigravida	39	39.0
Multigravida	61	61.0

Table II: Symptomatic vs asymptomatic factors of UTI (n=100)

Symptomatic vs asymptomatic factors of UTI	Number of patients	Percentage
Dysuria	89	89.0
Increased frequency	51	51.0
Urgency	15	15.0
Hematuria and/or abdominal discomfort	18	18.0
Fever and chills	9	9.0
Flank pain	19	19.0
Cost vertebral angle tenderness	3	3.0
History of previous UTI	5	5.0
History of catheterization or other instrumentation	2	2.0
History of diabetes mellitus	1	1.0

Figure 1: Pie chart showing urine culture and identification of the patients.

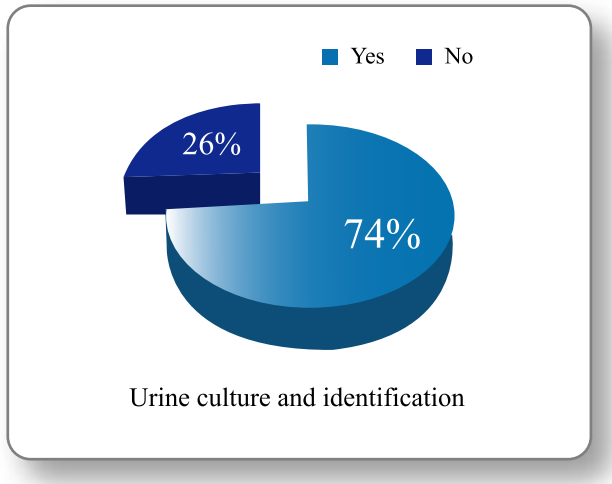

Figure 2: Pie chart showing name of bacteria isolated of the patients.

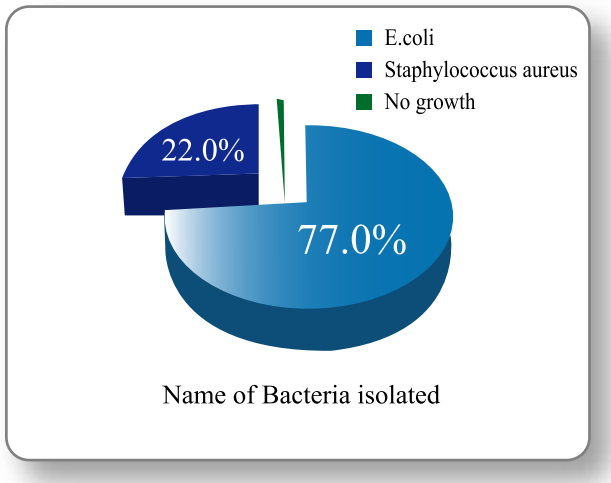

Table III: Sensitivity, intermediate and resistance pattern of antibiotics (n=100)

Antibiotics	Sensitivity (%)	Intermediate (%)	Resistanc (%)
Ampicillin	0.0	0.0	1.0
Amoxicillin clavulanic acid	0.0	1.0	68.0
Ceftriaxone	41.0	16.0	29.0
Vancomycin	0.0	0.0	1.0
Gentamycin	52.0	8.0	22.0
Nitrofurantoin	51.0	16.0	14.0
Meropenem	47.0	0.0	0.0
Piperacillin	48.0	13.0	0.0
Tazobact	12.0	3.0	0.0
Levoxin	16.0	10.0	8.0
Amikacin	3.0	2.0	23.0
Azithromycin	3.0	11.0	61.0
Cefuroxime	33.0	20.0	28.0
Cefixime	12.0	11.0	14.0
Cephradine	17.0	12.0	31.0
Clindamycin	12.0	0.0	10.0
Levofloxacin	18.0	19.0	16.0
Cotrimaxazole	33.0	4.0	13.0
Linezolid	13.0	7.0	4.0
Cloxacillin	3.0	0.0	11.0
Amoxyclav	0.0	0.0	11.0

DISCUSSION

In this study out of 100 patients, majority 48(48.0%) patients belonged to age 21-30 years. The mean age was found 24.28±6.03 years. Sibi et al.11 study observed that the age of the pregnant women ranged from 25-40 years. Majority (50.6%) of the study participants were in the age group of 30-34 years. Shaifali et al.1 study reported thirty-two (51.61%) of 62 females aged between 25 and 34 years and 15 (46.87%) of 32 females aged between 15 and 24 years were identified with UTI. Ten (40.0%) of 25 females between 35 and 44 years and 6 (30.0%) of 20 females above 45 years of age had UTI. Onoh et al.9 study observed that the mean age of pregnant women with positive culture of UTI was 27.9 ± 4.7 years with a range of 17–43 years. The majority (156 women, 61.9%) were within the age range of 20–29 years.

In this study it was observed that most 44(44.0%) patients had gestational age 4-6 months. In study of Sibi et al.11 reported the highest UTI were observed at third trimester gestational age (n=103; 57.2%). Khanum et al.12 study observed that the majority of the pregnant women were in their 1st trimester (16.8%).

In this present study it was observed that 61 (61.0%) patients were multigravida. Khanum et al.11 study showed that primigravida was found 16.7% and multigravida 16.2%, Onoh et al. primigravida was found 38.1%, primipara was 32.2%, multipara 8.3% and grandmultipra 21.4%.

In current study majority 89(89.0%) patients had dysuria, 51(51.0%) had increased frequency, 19(19.0%) had flank pain, 18(18.0%) had hematuria and/or abdominal discomfort, 15(15.0%) had urgency. Shaifali et al.13 study observed the most common urinary symptom presented was burning micturition (73.4%) followed by frequency (43.9%), urgency (20.9%), painful voiding (20.1%), difficulty (5.0%), and nocturnal incontinence (1.4%).

In this study observed majority 77.0% of the patients had E.coli, 22.0% had Staphylococcus aureus and 1.0% no growth. Khanum et al.12 Of the bacterial isolates in urine culture, Escherichia coli was the commonest (50.4%) organism and Staphylococcus aureus was 7.5%. Onoh et al.9 study reported E. coli was the most common organism isolated accounting for 128 (50.8%) of the total isolates. This was followed by S. aureus which accounted for 52 (20.6%) of the isolates. Sibi et al.11 Escherichia coli (E. coli) was the most common organism isolated accounting for 79 (43.9%) and the second highest organism was Klebsiella oxytoca (K. oxytoca) (n=35; 19.4%) followed by Klebiella pneumoniae (K. pneumoniae) (n=24; 13.3%).

In this study, regarding sensitivity pattern of antibiotics, it was observed that 41.0% sensitivity was found for ceftriaxone, 52.0% for gentamycin, 51.0% for nitrofurantion, 47.0% for

meropenem, 48.0% for piperacillin, 33.0% for cefuroxime and 33.0% for cotrimaxazole. Regarding resistance pattern of antibiotics, it was observed that 61.0% resistance was found for azithromycin, 31.0% for cephradine, 29.0% for ceftriaxone, 28.0% for cefuroxime. Similar observation was found Sibi et al.11 study they showed Amikacin had the highest overall sensitivity (n=138; 76.7%) against the 180 isolates tested. This was followed by ciprofloxacin (n=132; 73.3%) and clindamycin (n=124; 68.9%). Cefotaxime and nalidixic acid were exhibited 65.0% and 63.9% sensitivity against the isolates. Ceftriaxone had the overall sensitivity of 52.8%. The other antibiotics were recorded lesser than 50% of the sensitivity as follows: co-trimoxazole 45.0%, cloxacillin 31.6%, oxacillin 31.1%, norfloxacin 29.4%, vancomycin 28.9%, amoxicillin 28.3%, gentamycin 27.2% and erythromycin 18.3%. Khanum et al.12 Antimicrobial sensitivity of isolated bacteria showed that most of the isolated organism was sensitive to imipenem and amikacin. Sensitivity to nitrofurantoin was moderate and to ciprofloxacin and penicillin was comparatively low. All of the isolated Staphylococcus aureus were sensitive to vancomycin. Pseudomonas was 20% resistant to imipenem and amikacin. Onoh et al9 study Levofloxacin had the highest overall sensitivity of 92.5%. This was closely followed by cefpodoxime with 87.3%. Ofloxacin, ciprofloxacin and ceftriaxone had overall sensitivities above 60% but below 80%. Gentamicin had an overall sensitivity of 50.8%. Other antibiotics have their overall antibiotic sensitivity pattern below 50% and are distributed as fol¬lows: streptomycin 38.1%, nitrofurantoin 33.7%, nalidixic acid 21.4%, chloramphenicol 19.8%, tetracycline 15.9%, ampiclox 10%, cloxacillin 4.4%, amoxicillin 1.2%, and cotrimoxazole 0.4%. Overall sensitivity pattern $50%. These drugs include gentamicin, ofloxacin, ciprofloxacin, ceftriaxone, cefpo¬doxime, and levofloxacin.

CONCLUSION

E. coli was the most common etiological agent of UTI in pregnancy with Enterococcus(Staphylococcus) gaining prominence. Common symptomatic factors of UTI were dysuria, increased frequency, flank pain, hematuria and/or abdominal discomfort, urgency.

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Neonatal Sepsis: Analysis of causative pathogens and high resistance pattern to empirically used antibiotics in a Neonatal Intensive Care Unit of Bangladesh

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ABSTRACT

Objective: To study the pathogens causing neonatal sepsis and their drug resistance pattern, so that guideline can be prepared for empirical antibiotic therapy.

Materials and methods: This prospective study was conducted in NICU of Dhaka Medical College Hospital (DMCH), included 200 neonates with suspected septicemia. Organisms were isolated from blood by automated culture. Susceptibility testing was done by disc diffusion and MIC methods. Isolates were screened for ESBL, MBL and MRSA production by phenotypic methods.

Results: Out of 200 neonates, 106 (53%) were culture positive. The late onset neonatal sepses (LONS) were 68 (64%) and early onset neonatal sepses (EONS) were 38 (36%). Fifty-eight neonates had Gram-negative, 30 had Gram-positive septicemia and 18 had candida infection. Ninety-eight percent gram-negative isolates were resistant to ampicillin, gentamocin and 97% resistant to amoxyclav, ceftriaxone and cefotaxime. Eighty-three percent gram positive isolates were resistant to ampicillin and 80% resistant to ceftriaxone, gentamicin and teicoplanin.

Conclusion: To treat seriously ill neonatal sepsis patients, vancomycin or linezolid for gram positive cocci and colistin for gram negative bacilli may be included in empirical therapy in NICU of DMCH based on this study finding.

Keywords: antimicrobial resistance; empirical therapy; Bangladesh; neonatal sepsis.

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INTRODUCTION

Neonatal sepsis is one of the major causes of morbidity and mortality among the newborns in the developing countries. High rate of antibiotic resistance against commonest pathogen has further worsened the current situation. The definition and diagnosis of neonatal sepsis are both difficult as clinical sign's and laboratory markers are often non-specific and indistinguishable from other conditions. [1] According to time of onset, neonatal sepsis is classified as EONS and LONS. [2] Pathogens causing neonatal sepsis and their antibiotic sensitivity pattern may change over time and differ between countries. [3,4] In developing countries, overall Gram-negative organisms are more common and are mainly represented by Klebsiella spp., Esch.coli and Pseudomonas spp.[5] Of the Gram-positive organisms Staph. aureus, CONS, Streptococcus pneumoniae and Streptococcus pyogenes are most commonly isolated.[5] Significance of Candida spp. in NICU is increasingly being recognized. It is the third most common cause of LONS in NICU patients and accounts for 9-13% of blood stream infections in neonates. [6]

To treat neonatal sepsis patients in NICU of DMCH, ampicillin plus aminoglycosides (amikacin/gentamicin) or 3rd generation cephalosporins plus aminoglycosides were being used as empirical therapy. So, present study is conducted to determine the sensitivity pattern pathogens causing neonatal sepsis and to provide antibiogram to pediatrician for better management.

MATERIALS AND METHODS

This prospective study was conducted for a period of one year from July 2015 to June 2016 in a Dhaka Medical College Hospital (DMCH), after obtaining due approval from the institutional ethics committee. After proper explanation regarding the nature of the study written consent were taken from legal guardian of neonates. Total 200 blood samples were collected.

SPECIMEN PROCESSING

After taking proper history blood samples were collected from suspected septicemic neonates. With all aseptic precaution, a single sample of blood was collected (1-2 ml) and inoculated into the BACTEC PEDS PLUS vial, incubated in system's incubator at 37°C under aerobic condition for 7 days. After 24 hours, a small volume of blood was aspirated from vial with the help of disposable syringe, blind subcultured on MacConkey agar, blood agar and chocolate agar Medias and incubated at 37°C for 24 hours. If no growth was obtained, the bottles were examined daily for 7 days. Any sign of growth was followed by subculture and identified by Gram staining. Gram negative rods were identified by relevant biochemical test.[7] Following CLSI guidelines, antimicrobial susceptibility test was performed by disk diffusion technique using commercially available antibiotic disks (Oxoid Ltd, Basingstoke, UK).[8] Relevant ATCC strains were used as controls wherever necessary.

Phenotypic detection of ESBL producers by Double disk synergy (DDS) test. [9]

Phenotypic detection of Carbapenemase producers by Double-disk synergy tests (DDS), [10] and combined disk (CD) assay. [11]

DETECTION OF METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA)

All Staphylococcus aureus isolates were screened for methicillin resistance by standard disc diffusion method as per CLSI standard using cefoxitin (30 µg) discs. [8] Disc method was compared with oxacillin minimum inhibitory concentration (MIC). MIC of oxacillin was ≥ 4 µg/ml was reported as MRSA.

STATISTICAL ANALYSIS

Data were analyzed by using Microsoft Excel (2007) software (Microsoft, Redmond, WA, USA).

RESULTS

Total 200 clinically suspected neonatal sepsis cases were studied during the period among them 106 (53%), shows blood culture positive. Gram negative organisms were isolated in 58 (55%) cases, Gram positive in 30 cases (28%) and Candida spp. in 18 cases (17%). There were 80 cases of EONS out of which 38 (36%) and 120 cases of LONS out of which 68 (64%) were culture positives respectively.

Among the Gram negative isolates, Klebsiella pneumoniae (25%) was commonest organisms isolated followed by Acinetobacter baumannii (17%), E. coli (8%) and Pseudomonas aeruginosa (4%).While in Gram-positive isolates, Staph. aureus (23%) was the most common followed by CONS (6%). Among the isolated 58 gram negative bacteria, 31% were ESBL and 51% were carbapenemase producers. 63% MRSA were detected by MIC of oxacillin (MIC ≥ 256 µg/ml). Present study showed, ampicillin and gentamycin resistance in 98% among Gram negative isolates. Increased resistance was also noticed against ceftriaxone, cefotaxime, amoxyclave (97%) and amikacin (91%). which are commonly used for empirical therapy. According to our antibiogram of our hospital, colistin and meropenem were effective against Gram-negative bugs. In case of Gram-positive isolates, ampicillin resistant was noted in 83% cases, which is a primary drug. Ceftriaxone and aminoglycosides i,e., gentamycin, amikacin accounted for 80% and 60% resistance respectively among Gram-positive isolates. Linezolid and vancomycin were sensitive in all isolates (100%).

DISCUSSION

Neonatal sepsis is a major contributor to neonatal mortality and has to be addressed seriously. Blood culture positivity in our study was 53% compared to (45.9%) in Nigeria, (52.6%) in India and (54%) in Egypt.[12-14] Overcrowding in NICU of DMCH, inappropriate infection control protocol and high patient to healthcare provider ratio may be contributing factors for high isolation rate of the present study. LONS was more common (64%) than EONS (36%) in the present study. The possible explanation for higher proportion of LONS in this study might be attributed to the increasing use of life supporting measures and improved survival of sick neonates, as well as delay discharge policy, failure of early enteral feeding with breast milk and poor hygienic polices may have some role in rise of LONS. In our study, gram negative organisms were responsible for more (55%) cases of neonatal sepsis than gram positive organisms (28%) and the most common pathogen identified was Klebsiella pneumoniae (25%) followed by Staph. aureus (23%), which also coincide with previous studies.[15-17] Gram negative organisms were more in environment than gram positive organisms and neonates get infection easily from the environmental source. In-addition gram positive cocci are commonly transmitted through person to person contact.

Isolated pathogens were highly resistant to current empirical therapy used in NICU of DMCH. These are the first line treatment for neonatal sepsis according to WHO.[18] High resistance rates to first line antibiotics may be due to, indiscriminate use of antibiotics, moreover, antibiotics are sold over the counter and do not need prescription to buy it, which led to overuse or underuse of drugs in Bangladesh. The mortality rate in NICU of DMCH was around 27% before this study which has been dropped to 20% after changing the empirical therapy based on the present study findings. This higher mortality rate in NICU of DMCH might be due to the fact that seriously ill

neonates from all over the country come to DMCH as national experts are working here and treatment is borne by the Government of Bangladesh

Only antibiotics are used to treat neonatal sepsis in NICU of DMCH, but this study also detected Candida spp. (17%) in sepsis patients. So in-addition to antibiotics, antifungal drugs may be included in patients who failed to improve after treatment with antibiotics. The high incidence of ESBLs, Carbapenemase and MRSA in our study among the isolated organisms highlights the emerging therapeutic challenge in NICU of Bangladesh. The outcome of this study will definitely help to obtain SDG for Bangladesh.

CONFLICTS OF INTEREST

There are no any potential conflicts of interest; this research did not receive any specific grant

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Table-1: Organisms isolated from blood in EONS and LONS.

Microorganisms	EONS n (%)	LONS n (%)	Total n (%)
Klebsiella pneumoniae	6 (15.79)	20 (29.41)	26 (24.53)
Staph. aureus	16 (42.11)	8 (11.76)	24 (22.64)
Acinetobacter baumannii	5 (13.16)	13 (19.12)	18 (16.98)
Candida spp.	3 (7.89)	15 (22.06)	18 (16.98)
Esch. coli	5 (13.16)	3 (4.41)	8 (7.55)
CONS	3 (7.89)	3 (4.41)	6 (5.66)
Pseudomonas aeruginosa	0 (0.00)	4 (5.88)	4 (3.77)
Citrobacter freundii	0 (0.00)	2 (2.95)	2 (1.89)
Total	**38 (35.85)**	**68 (64.16)**	**106 (53.00)**

CONS- Coagulase Negative Staphylococcus

Table-2: Antibiotic resistance pattern of the isolated gram negative bacteria (N=58).

Antimicrobial drugs	*Klebsiella pneumoniae* (N=26) n (%)	*Acinetobacter baumannii* (N=18) n (%)	*Esch. coli* (N=8) n (%)	*Pseudomonas aeruginosa* (N=4) n (%)	*Citrobacter freundii* (N=2) n (%)
Ampicillin	26 (100.00)	18 (100.00)	8 (100.00)	3 (75.00)	2 (100.00)
Amikacin	25 (96.15)	15 (83.33)	8 (100.00)	3 (75.00)	2 (100.00)
Amoxyclav	26 (100.00)	18 (100.00)	7 (87.50)	3 (75.00)	2 (100.00)
Ceftazidime	25 (96.15)	15 (83.33)	8 (100.00)	2 (50.00)	2 (100.00)
Ceftriaxone	26 (100.00)	16 (88.89)	8 (100.00)	4 (100.00)	2 (100.00)
Cefotaxime	26 (100.00)	16 (88.89)	8 (100.00)	4 (100.00)	2 (100.00)
Ciprofloxacin	20 (76.92)	12 (66.66)	6 (75.00)	2 (50.00)	2 (100.00)
Colistin	2 (7.69)	3 (16.66)	0 (0.00)	3 (75.00)	0 (0.00)
Clindamycin	26 (100.00)	18 (100.00)	8 (100.00)	4 (100.00)	2 (100.00)
Cefepime	24 (92.31)	15 (83.33)	8 (100.00)	3 (75.00)	2 (100.00)
Gentamicin	26 (100.00)	17 (94.44)	8 (100.00)	4 (100.00)	2 (100.00)
Meropenem	13 (50.00)	14 (77.78)	2 (25.00)	2 (50.00)	0 (0.00)
Netilmycin	25 (96.15)	18 (100.00)	8 (100.00)	3 (75.00)	0 (0.00)
Piperacillin with Tazobactum	22 (84.62)	15 (83.33)	8 (100.00)	0 (0.00)	0 (0.00)

Table 4.3: Antibiotic resistance pattern of isolated gram positive bacteria (N=30).

Antimicrobial drugs	Staphylococcus aureus (N=24) n (%)	CONS (Staph. epidermidis) (N=6) n (%)
Ampicillin	21 (87.50)	4 (66.67)
Amikacin	13 (54.17)	5 (83.33)
Ceftazidime	20 (83.33)	4 (66.67)
Ceftriaxone	20 (83.33)	4 (66.67)
Cefotaxime	21 (87.50)	4 (66.67)
Ciprofloxacin	18 (75.00)	4 (66.67)
Oxacillin	18 (75.00)	2 (33.33)
Cefoxitin	16 (66.67)	2 (33.33)
Cefepime	19 (79.17)	4 (66.67)
Cloxacillin	24 (100.00)	2 (33.33)
Gentamicin	19 (79.17)	5 (83.33)
Linezolid	0 (0.00)	0 (0.00)
Levofloxacin	9 (37.50)	4 (66.67)
Teicoplanin	19 (79.17)	5 (83.33)
Vancomycin	0 (0.00)	0 (0.00)

The ORION Medical Journal 2018 July;20-2(44): p21-22

Smoker's cough-nothing but a Pre-COPD

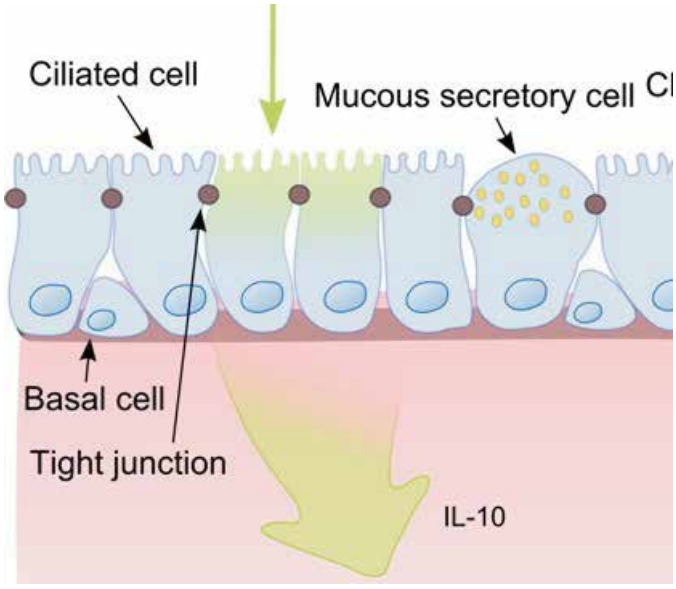
Dr.Mohammad Azizur Rahman [1]

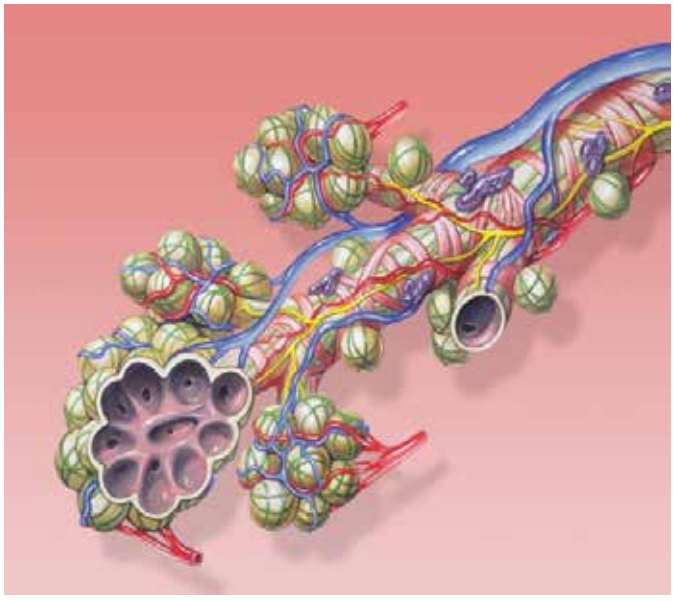
Smoker's cough is defined as persistent cough in smokers as a result of the irritation and damage of the lining of lungs from smoking cigarettes. In practice, smokers cough represents a spectrum of lung disease from mild irritation to advanced Chronic Obstructive Pulmonary Disease(COPD). It is hard to separate pure smokers cough from beginning of more advanced lung diseases. Smoker's cough can be seen as the first step towards development of COPD.

Cigarette smoke is made up of many different particles and gases. When you inhale this mixture inside your lungs, your lungs try to protect themselves using several lines of defenses. Tightly packed cells called the epithelial cells of the air pipes guard the inner lining of your lung. They are the first line of defense against external irritants. They produce liquid mucous to help clean the inside of the lungs and clear the debris. They also have small hair like projection called cilia that literally sweep the mucus along with the dirty particles. The inner lining of the lungs also have immune cells that help to capture and kill invading organisms. Your immune system has the ability to recruit additional immune cells and inflammatory mediators to your lungs when needed to fight any invasion.

When the particles and gases in the cigarette smoke reach the inner linings of lungs, the epithelial cells sense those irritants and produce more mucous. They try to clear the debris by sweeping with the cilia. They also initiate the cough response and help expel the dirt out of your lungs. When a person start smoking, initial cough is part of the defense mechanism and eventually this defense mechanism gets weaker. The epithelial cells start to lose their cilia and become less effective in clearing the particles. They produce more mucous but their ability to clear the mucous and irritants decrease. At this stage, the irritation and surface damage leads to persistent cough as your lungs try to free themselves of the irritants.Dry cough for at least three months, it could be smokers cough from the beginning stage of lung damage.

When a smoker continue to smoke cigarettes, he have further and more extensive damage in lungs. The production of mucus keeps going up. Normally mucus is only produced in relatively bigger airways so that they can be cleared easily. When the irritation and damage of the epithelial cells continue, even smaller airways start forming cells capable of producing more mucus. When the amount of mucus in small airways reaches a certain level, it starts to get trapped. With mucus trapping,cough gets worse and begin to transition from dry cough to wet productive cough. Due to decreased debris clearance and accumulation of mucus, you may be susceptible to more frequent upper respiratory infections. Your immune system gets activated to build up a better defense system because of the increased susceptibility to infection. In the short term, this may be helpful to fight infection. However, the over-activation of immune system can cause long-term lung damage.





When a smoker have daily cough with copious amount of sputum production for at least 3 months, you meet the criteria to be formally diagnosed with chronic bronchitis. Other than significantly increased mucus production, there is significant inflammation from over-activation of the immune system

when you have chronic bronchitis. The inflammatory immune cells infiltrate the epithelium. The inflammation results in enlargement of the mucous producing glands. The toxic gas and particles present in cigarette smoke continue to damage the surface of the air tubes repeatedly. The cells of the air tubes try to repair themselves back to normal. However, the surfaces of the air pipes lose their original structure because of the repeated damage and repair. This is called remodeling. It can lead to narrower airways.

When the narrowing of airways becomes widespread, it can cause significant slowing down of the airflow inside your lungs. The airflow obstruction gets particularly worse when the airways narrowing involves small branches of the airways. At this stage,smoker's have chronic productive cough associated with wheezing.

When the airway obstruction is permanent and associated with some degree of respiratory compromise, you have chronic obstructive pulmonary disease.There is a significant variation in the amount of cigarette smoking required to get COPD. Some people may get COPD with just 15 years of smoking while it may take 30 or even 40 years for others. It is true even if they smoked the exact same numbers of cigarette a day. Some people are born with a gene that makes them highly susceptible to getting COPD even from relatively small amount of cigarette exposure.

At first, the shortness of breath may only be apparent with exertion rather than smoker's feeling of low energy or being tired. Although airway obstruction is one of the main problems in COPD, it is not the only one. Smoking can also damage air sacs & increases compliance. The lungs therefore overinflate and put the chest at a mechanical disadvantage making inspiration require more effort.

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PCOS in adolescent girl-how to manage?

Prof. Dr. Jesmin Akter [1]

ABSTRACT

Recently due to changes in life style the incidence of adolescent PCOS is on rise and form the basis of metabolic and endocrinological disease in late life. Hence it is of almost importance to recognize the pathology at earliest and treat it before the features because resistant.

Key words: Adolescent, PCOS, early treatment, rising incidence.

Authors

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INTRODUCTION

In 1935, stain and lever that first describe, the association of PCO, oligomenorrhea, hirsutism and obesity.[1] The key features of PCOS included hyperandrogenism, menstrual dysfunction, normal or elevated estrogen level, hyperinsulinemia, anovulation, elevated ratio of luteinizing hormone to follicle stimulating hormone and polycystic ovaries identified by using ultrasonography.

Recently it is observed that has been increase in incidence of adolescent PCOS, which is more commonly observed urban compared to those in rural areas. Puberty is the transitional period between childhoods to adulthood. Significant metabolic and endocrinologic changes occur at puberty which forms the background for this physical and physiological transformation. These changes are usually reversible but they may sometimes persist and behave abnormally in future.

The probable causes of increased incidence of urban adolescent PCOS may be-

(i) Changing life style of modern society with overeating, eating fatty food.

(ii) Competition for apliftment of social and financial status which increase stress on growing children.

(iii) Too much academic load at school level with lack of outdoor exercise.

(iv) Genetic factors.

The three main diagnostic criteria of PCOS namely, irregular and delayed menastrual cycles, anovulation. Presences of cysts in ovaries are not applicable as diagnostic criteria for PCOS in adolescents.[1]

Anovulation or irregular period is very common findings in normal adolescents. Multicystic ovaries occur in normal girls during pubertal development.[2]

The clinical criteria by which PCOS in adolescent girls can be identified include;

(1) Obesity or increase BMI (Body mass index) (>30 kg/m2)

(2) Features of hyperandrogenism (Hinsutism, Acne, Acanthosis rignicens)

(3) Premature pubanche.

Biochemical markers-

(i) Serum LH to FSH ratio on day 3 of menstrual cycle > 3.

(ii) Elevated free testosterone >200 ng/dl.

(iii) Elevated 17 hydroxy-progesterone are more confirmatory evidence of onset of PCOS in adolescence.

(iv) Fasting glucose; Fasting insulin ratio less than [4,5].

Patient should be investigated to rule out hyperprolactinemia, hypothyroidism which can present with clinical features similar to those of PCOS.

Laparoscopic findings-

Aim of treatment of adolescent PCOS

(i) Treatment of oligomenorrhoea and amenorrhoea.

(ii) Management of hirsutism and acne.

(iii) Reducing the tan reaching consequence of insulin resistance and glucose intolerance.

Management

(i) Weight reduction-Moderate physical activity for 30 to 60 minutes/day should be goal of all patients with adolescent PCOS.

(ii) Life style modification carbohydrate and fat restricted diet.

(iii) Oral contraceptive pill-Oestrogen component of oral contraceptives suppresses LH and thus reduces ovarian androgen production.

(iv) Insulin sensitizing drugs-It is indicated when OCP or weight reduction fails or there is clinical or biochemical evidence of gross hyperinsulemine or hyperandrogenicity.

Insulin sensitivity drug like metformin 500 mg to 1500 mg daily is divided doses for 6-9 months.[4,5]

Metformin lowers hepatic glucose production and decrease insulin level. In obese women with insulin resistance agents like metformin may help some loss of weight.[6]

(v) Cosmetic treatment-In the form of epilaties, waking electrolysis and lose treatment (permanent hair removed) required to remove the hair-which have already grown.

(vi) Oral antibiotics like Erythromycins and Azthromycin may be used for treatment of acne.

Response to treatment is assessed by resumption of menstrual cyelicity, reduction is features of hyperandrogenicity and improvement of biochemical parameters like reduction of free sence testosterone and normalization of fasting glucose insulin ratio.

More recent studies have focused on the role of OCPS in improving acne.7 The earliest progestin of oral pill were syntherized directly from testosterone and exhibited both androgenic and progentation activity.[8]

Gradually the structure of these progestins was further modified to reduce androgen city and enhance progestational activity. Ethinl estrdiol is capable of increasing hepatic synthesis of SHBG, which binds circulating testosterone, rendering it biologically inactive and decreased free testosterone.[9]

Cryproteone acetate and drospirurne are 2 progestins that are trcely antiandrogenic.[10,11]

The recommended oral pill includes a combination of ethyns oestradiol with either 2 mg of cryproterone acctate (Diane-35, giar 35) and or 3 mg drospirenine (Novelem, Rosen 28).

About 70% of women with PCOS have menstrual disturbance.[12]

The menstrual cycle may be scanty heavy or irregular women with oligomenorrhoea or amenorrhoea may be relieved with the use of low dose combined oral pill or with cyclical progesterone therapy.

In women who have arovatory amenorrhoea the unopposed estridiaol action on the endometrium may have long term effect of endometrial hyperplasia and carcinoma. So they may require periodic withdrawal bleeding with progestogens.[13]

CONCLUSION

Offering psychological support can be one of the most important aspects of managing this disease. This begains by building positive, supportive relationship with adolescent diagnosed PCOS, such relationship will allow the adolescents to express their feelings, and concerns regarding having a chronic disease whose signs and symptoms can greatly impact one's body image and self-esteem.

PCOS 'it identified at young adolescent age, the biochemical features which form the basis of clinical consequences at adult age one more easily treatable and reversible. Relatively these biochemical features become more resistant and less amenable to treatment when women with PCOS one diagnosed in the reproductive age group.

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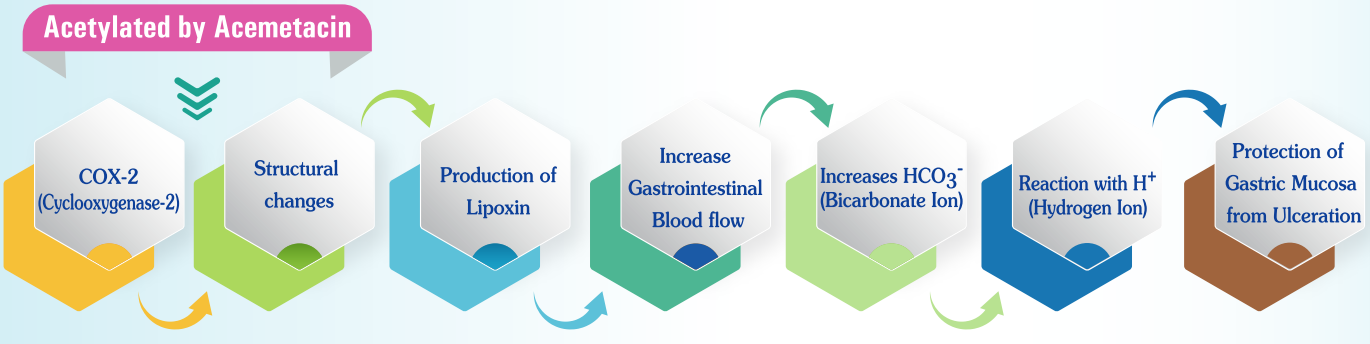

Fig.: Gastric Mucosal Protection by Tendonil (Acemetacin)

The ORION Medical Journal 2018 July;20-2(44): p26-30

Computed Tomography and Clinical Correlation of Acute Stroke Diagnosis

Brig Dr. Habibur Rahman (Retd) [1], *Dr. Rosy Perveen* [2], *AFMS Islam* [3], *Dr. Ruksana P. Khan* [4]

ABSTRACT

Introduction

Stroke or "cerebrovascular accident" is a medical condition in which poor blood flow to the brain results in cell death. Successful treatment of stroke varies depending on its types whether there is infarct or bleed.

Objectives

This study was carried out to compare clinical diagnosis of stroke with computed tomography (CT) scan findings for ascertaining the exact type of stroke (hemorrhagic or Ischemic)

Study Design

Cross sectional type of observational study.

Settings

Department of Radiology & Imaging of medical college for women and hospital (MCWH), Uttara Dhaka and Cathersis hospital, Pubail Dhaka.

Duration of study

During the periods of January 2015 to December 2017.

Methods

Total 120 patients ¬fulfilling the inclusion criteria presenting with stroke were included in this study. Clinical diagnosis was mainly made depending on presentation of symptoms, speed of onset, presence or absence of cardiovascular disease and past history of similar attack. CT scan of brain was done in all patients and finally clinical diagnosis were compared individually with CT findings.

Results

Out of 120 patients 84 were males and 36 females with an age range of 20-80 years. Clinically 52 patients were suspected to have cerebral infarction, 38 intracerebral bleeds and 30 indeterminate. CT scan of brain showed 58 cerebral infarcts, 42 intra cerebral hemorrhage, 06 space occupying lesion and 14 hemorrhagic infarct.

Conclusion

The study reveals that CT should be the first line investigation to evaluate patients presenting with strokes as it is convenient, quicker and shows excellent accuracy in diagnosis.

Authors

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INTRODUCTION

The differentiation between hemorrhagic and ischemic stroke is important because of the therapeutic implications.[1] But clinical differentiation has proved to be problematic because small hematoma may cause symptoms and signs that are identical to those caused by infarcts.[2] The introduction of cerebral CT to clinical practice has become the most commonly used primary radiologic investigation for stroke.[3] There are three types of stroke: the ischemic, due to lack of blood flow, hemorrhagic, due to bleeding and thrombotic stroke where fatty deposits block arteries.[4] Clinical presentation may include inability to move or feel on one side of the body, problem in understanding or speaking, feeling like the world spinning, loss

of vision to one side or complain of headache. An accurate diagnosis will determine whether a patient is treated with thrombolytics or with other interventions. On the other hand, an error in proper diagnosis could deprive the patients of proper treatment or unnecessarily expose the patients to potentially harmful treatments.[5]

This study was carried out for comparison of clinical diagnosis with computed tomography in ascertaining the specific type of acute stroke.

MATERIALS AND METHODS

This cross-sectional and observational study utilized the patients referred to the departments of radiology in MCWH Uttara Dhaka and Cathersis Hospital at Pubail Dhaka from January 2015 to December 2017. All patients with clinical diagnosis of acute stroke were subjected to CT scan brain. Clinical diagnosis, age, sex, time of onset of symptoms and time of presentation to hospital where noted. Those patients who presented with sudden onset of coma rapid deterioration of neurological state, severe headache, severe vomiting, neck stiffness along with hypertension were considered to be suffering from hemorrhagic stroke patients presenting with sudden onset of laterizing size especially in the presence of atrial fibrillation, rheumatic heart disease, recent myocardial infarction and carotid bruit were considered to be suffering from cerebral infarction. In addition to routine investigation blood sugar, lipid profile, ECG and Echocardiography were performed. All patients had CT scan on brain. Finally, a comparison was made between the findings of CT scan and clinical diagnosis individually to ascertain the precise clinical diagnosis.

RESULTS

120 patients were included in this study, out of which 86 were males and the rest 36 were females (Table- 1). Age of the patients ranged from 20-80 years. Majority 53 (44.16%) of the patients were between 61-80 years (Table-2). Table-3 shows out of 120 patients 38 patients (31.66%) were clinically hemorrhagic, 52 (43.33%) and 30(25%) indeterminate. But CT scan shows hemorrhagic stroke 42(35%), infarction 58(48.33%) is space occupying lesion 14 (11.66%) and hemorrhagic infarct 06(5%) cases.

Table-1 Sex distribution in Patients of Acute Stroke

Gender of Patients	Number of Patients	Percentage (%)
Male	84	70%
Female	36	30%
Total	120	100%

Table-2 Distribution of Patient by age group (n=120)

Age group (in years)	Number of cases	Percentage (%)
21-30	03	2.5%
31-40	05	4.16%
41-50	12	10%
51-60	37	30.83%
61-70	53	44.16%
71-80	10	8.33%
Total	120%	100%

Clinically 38 patients were suspected to be of hemorrhagic stroke, out of which 21 had hemorrhage on CT scan showing 55.26% agreement, while 17 had infarction. Out of 52 clinically suspected cerebral infarction cases only 30 cases were proved to have infarction on CT scan which reflects a clinical accuracy of 60% (Table-5).

Table-3 Clinical diagnosis of type of acute stroke (n=120)

Diagnosis	Cases (%)
Hemorrhage	38 (31.66%)
Infarction	52 (43.33%)
Indeterminate	30 (25%)

Table-4 CT scan findings in Patients with acute stroke (n=120)

Diagnosis	Cases (%)
Hemorrhage	42 (35%)
Infarction	58 (48.33%)
Space Occupying Lesion	14 (11.66%)
Hemorrhage Infarct	06 (5%)

Table-5 CT scan findings in clinically diagnosed cases (n=90)

Specific Type of Acute Stroke	Clinical Diagnosis	CT Scan Confirmation	Agreement of Results
Hemorrhage	38	21	55.26%
Infarction	52	30	57.69%

DISCUSSION

Clinical examination alone cannot distinguish ischemic from hemorrhagic stroke; CT scan or magnetic resonance imaging (MRI) is required. Brain imaging determines management decisions and guide physicians to use the drugs such as antiplateiet or thrambolytic drugs for acute stroke.

The burden of stroke is high and not only attributable to its high mortality but also to its consequent high morbidity. Wrong clinical diagnosis has a high significance for patient outcome. Certainly, the stroke diagnosis in markedly enhanced by computed tomography scan. Reliance on only clinical diagnosis of acute stroke is not justifiable especially where CT is readily available.

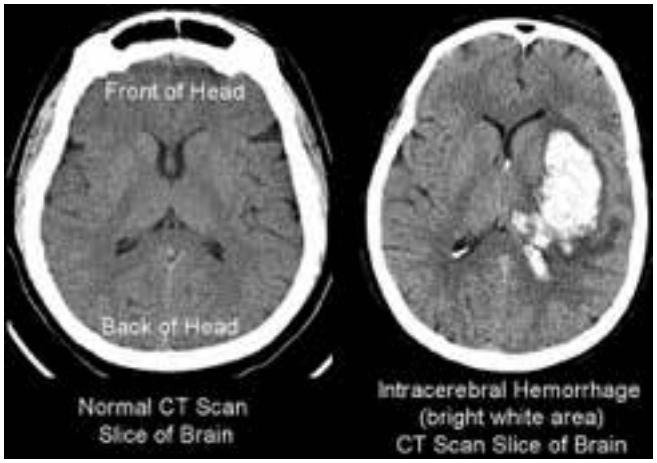

Figure-1: CT scan showing intracerebral haemorrhage.

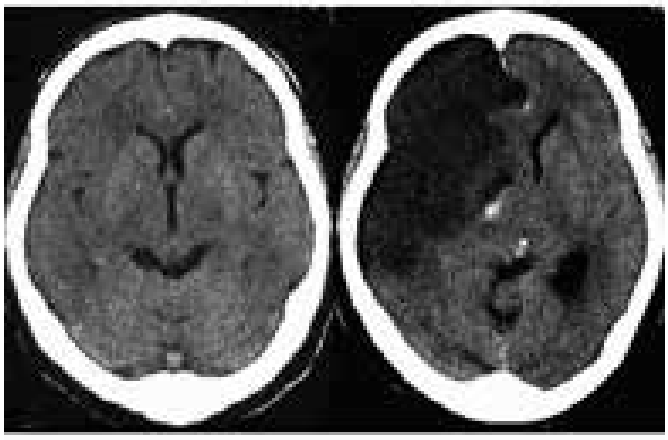

Figure-2: CT scan of brain showing acute infarct (black area) with mass effect.

Only (75%) of the clinical diagnosis of the patients in this study was compared with findings of CT showed misdiagnosis of (25%) this finding of inadequacy of the clinical diagnosis is in consonance with salawu et al (2009) findings in maidguri where they noted misdiagnosis rate of 15% as found offer comparing clinical diagnosis with CT scan6. In similar study Ase fa et at (2010) in Ethopia deported a misdiagnosis rate of 30% related to clinical diagnosis[7].

Ogun et at (2001) in a study of 156 Nigerian patients showed high misdiagnosis rate of 44% where they compared CT findings with clinical diagnosis[8].

To support physicians to establish clinical diagnosis a number of scoring system like “Allen score” and “Siriraj score” have developed to determine the relative likelihood of infarction or hemorrhage. Although the clinical diagnosis made using these scores seem more accurate than those made by physician’s clinical eye, they also presented several problems. So, during this last decade the “Allen score” (also referred to as the Guy’s Hospital score), a validated clinical score was received with a lot of enthusiasm but has gradually faded away. In study of 1059 patients in Glasgow the Guy’s Hospital score was proved to have a sensitivity of 70% for diagnosis of hemorrhage and specificity of 64%; the corresponding figures for the siriraj score were 68% sensitivity and 64% specificity. This study concluded that neither score is useful for exclusion of hemorrhage before anticoagulant treatment is initiated[9]. In an Indian setting recently siriraj stroke score and Guy’s Hospital score were tested by Badam et al[10]. In this study both above mentioned scores were found to be insufficient to definitely identify hemorrhage or infarct.

The findings of this study emphasized the importance of routine CT scan in acute stroke patients because it is readily available in all hours at major hospitals and produces images quickly. Besides, CT scan also has unique diagnostic benefits as it quickly rules our hemorrhage and can show even a tiny tumor that could mimic a stroke.

CONCLUSION

Although there have been important advances in stroke imaging including CT perfusion imaging, Xenon CT, CT angiography, MR diffusion imaging, MR perfusion imaging and MR angiography; our study found that clinical diagnosis of acute stroke alone is very often not reliable, and this creating a high potential for poor patient morbidity. It is therefore pertinent that CT be incorporated in acute stroke management where possible.

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Persistent stress may lead to vision loss, study shows

Published Thursday 21 June 2018

By Ana Sandoiu

Fact checked by Jasmin Collier

A new analysis of clinical reports and existing research suggests that "stress is both consequence and cause of vision loss." The findings indicate that clinicians should refrain from adding any unnecessary stress to their patients, and that reducing stress may help to restore vision.

Prolonged stress may lead to a range of eye health issues, as well as worsening existing ones, suggests a new study.

When a person loses their eyesight, they may experience a high level of mental stress in the form of worries and anxiety about the situation.

Sometimes, in more severe circumstances, depression and social isolation may ensue.

But does the reverse also occur? Can stress actually lead to a loss of vision? A new study, published in the EPMA Journal — the official publication of the European Association for Predictive, Preventive, and Personalized Medicine — suggests that it can.

The new research was led by Prof. Bernhard Sabel, director of the Institute of Medical Psychology at Magdeburg University in Germany.

In their paper, Prof. Sabel and colleagues explain that persistent stress, which raises levels of the hormone cortisol, can negatively affect our vascular and sympathetic nervous systems.

This, in turn, affects our brain and eyes, which may lead to conditions such as glaucoma and optic neuropathy — ultimately resulting in complete vision loss.

Stress causes and worsens eye conditions

After analyzing hundreds of studies and clinical trials, Prof. Sabel and his colleagues conclude that stress is not only a consequence of vision loss, but that it may also aggravate eye conditions.

As he explains, "There is clear evidence of a psychosomatic component to vision loss, as stress is an important cause — not just a consequence — of progressive vision loss resulting from diseases such as glaucoma, optic neuropathy, diabetic retinopathy, and age-related macular deSome of the studies reviewed in the new research even show that reducing stress can help to restore vision.

The authors also explain that patients have often communicated their suspicions that stress worsens their eye condition. However, the studies documenting this phenomenon of psychosomatic effects on eye health are insufficient.

generation."

'Doctors should inculcate optimism'

Such a psychosomatic approach to ophthalmology, explain Prof. Sabel and his team, has various consequences for clinical practice.

For one thing, stress reduction strategies such as meditation, stress management techniques, or psychological counseling may serve to restore vision and improve eye health.

Such techniques should not just complement conventional medicine, write the authors, but they should also be used preventively.

Secondly, the researchers continue, "doctors should try their best to inculcate positivity and optimism in their patients while giving them the information the patients are entitled to."

Study co-author Muneeb Faiq, Ph.D. — a clinical researcher with the All India Institute of Medical Sciences in New Delhi, India, as well as with the Department of Ophthalmology at the New York University School of Medicine in New York City — echoes the same sentiments.

He says, "The behavior and words of the treating physician can have far-reaching consequences for the prognosis of vision loss. Many patients are told that the prognosis is poor and that they should be prepared to become blind one day."

"Even when this is far from certainty and full blindness almost never occurs, the ensuing fear and anxiety are a neurological and psychological double-burden with physiological consequences that often worsen the disease condition."

Muneeb Faiq, Ph.D.

The authors admit that more clinical studies are necessary to confirm their findings and to assess the efficacy of various stress reduction strategies for slowing down the progressive loss of vision and for improving the chances of vision recovery.

Such clinical trials are needed to provide a solid foundation for the field of psychosomatic ophthalmology, say the researchers.

https://www.medicalnewstoday.com/articles/322222.php

Woman's Odd Weight Gain Turned Out to Be a 50-Pound Ovarian Tumor

By Rachael Rettner, Senior Writer | June 29, 2018 03:32pm ET

Doctors removed a 50-pound ovarian tumor from a woman in Alabama.

Credit: Jackson Hospital

A woman in Alabama who couldn't seem to lose weight turned out to have a massive tumor on her ovary, according to news reports.

The 30-year-old woman, Kayla Rahn, had experienced stomach pain and weight gain for months, and even had trouble with everyday activities like walking, according to local news outlet WSFA. "I couldn't even walk to my car without losing my breath," Rahn told WSFA.

Doctors told Rahn she simply needed to lose weight, but despite her weight-loss efforts, she continued to put on pounds.

Rahn's pain got so bad, she ended up in the emergency room, where doctors finally identified the problem: a 50-lb. (23 kilograms) mass on one of her ovaries. [27 Oddest Medical Cases]

Rahn had a type of tumor known as a mucinous cystadenoma, according to WSFA. This type of tumor is benign and arises from the tissue that forms the outer layer of the ovary, called the Rahn had a type of tumor known as a mucinous cystadenoma, according to WSFA. This type of tumor is benign and arises from the tissue that forms the outer layer of the ovary, called the epithelium, according to a 2010 report of a similar case in Saudi Arabia. Mucinous cystadenoma tumors account for about 15 percent of all ovarian tumors.

Kayla Rahn had surgery to remove her 50-pound tumor.

Credit: Jackson Hospital

These tumors are filled with a thick, gelatinous fluid. They can become quite large, with some reported to weigh more than 300 lbs. (136 kg), according to the reference book "Clinical Gynecologic Oncology, Eighth Edition." Just last month, doctors removed a similar 132-lb. (60 kg) ovarian tumor from a woman in Connecticut, Live Science previously reported.

Most often, these tumors occur in women ages 20 to 40, but cases have also been reported in teens and postmenopausal women, according to a 2014 review article.

Rahn's physician, Dr. Gregory Jones, an obstetrician/gynecologist at Jackson Hospital in Montgomery, Alabama, said he has seen cases of mucinous cystadenoma before, but he was surprised by the size of Rahn's tumor. "This is one of the largest I have ever seen or certainly removed," Jones told WSFA.

Rahn underwent surgery to remove the tumor last month, and she is now recovering. She's now able to wear clothes that she couldn't fit into before. "This dress I have on, I actually have not been able to wear in a year," Rahn said.

https://www.livescience.com/62957-womans-50-pound-ovarian-tumor.html

New infection prevention tool improve transparency and standardization of practice

Date:

April 21, 2018

Source:

European Society of Clinical Microbiology and Infectious Diseases

Summary

Researchers developed a new color-coded visual tool called Infection Risk Scan, or IRIS, which is set to make it easier for healthcare workers to measure in which areas a hospital complies with guidelines and where it needs to implement measures to improve infection control and the use antimicrobial therapies, according to new research.

Researchers developed a new colour-coded visual tool called Infection Risk Scan, or IRIS, which is set to make it easier for healthcare workers to measure in which areas a hospital complies with guidelines and where it needs to implement measures to improve infection control and the use antimicrobial therapies, according to research presented at the 28th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID).

Dr Ina Willemsen, presenting author, and her team of researchers looked at several variables in care and compared them to local quality standards and data. These variables included hand hygiene, environmental contamination, healthcare workers' personal hygiene, appropriate use of antibiotics and any transmission of antibiotic-resistant gram-negative bacteria, such as Klebsiella spp. or Escherichia coli (E. coli). From this, the risk factors were displayed as an image that shows patient-related risks and any factors that can be controlled by healthcare workers.

"Infection control needs user-friendly standardized instruments to measure the compliance to guidelines and to implement improvement actions," Willemsen said.

"The IRIS method provides a multifactorial tool ensuring transparency in the infection control practices and outcomes. Repeated use of the IRIS makes it possible to monitor outcome and offers opportunities for targeted adjustment where needed. This results in a plan-do-check-act (PDCA) quality cycle in infection control."

Over three years, Willemsen's team conducted four consecutive IRIS in five wards of a Dutch hospital. All wards improved hand hygiene compliance, increasing to 68% overall from 43%. Environmental contamination, which was evaluated using adenosine triphosphate measurements, improved but could not be sustained. Personal hygiene was already good and was sustained over the observation period. The appropriate use of antibiotics did not improve despite researchers having identified clear places for improvement, however no changes were implemented. And finally, researchers noted only one instance of drug resistant bacteria transmission involving two patients.

In the next two years, IRIS will be implemented in nine hospitals and 40 nursing homes in the Dutch/Belgium border area. In addition to this research, Willemsen also explored whether this model could be useful in comparing the quality of infection control programmes between hospitals and between hospitals in different health systems. To that end they compared IRIS results from a hospital in the Netherlands and one in the United States.

The same variables were used to determine the levels of infection control and antimicrobial use as described above. Willemsen's team compared the US results with the Dutch guidelines and vice versa.

The hospitals varied greatly in their approach to antimicrobial therapy. Narrow-spectrum antimicrobials are used in the Netherlands whereas in the United States, guidelines call for broad-spectrum antimicrobials. There was also a large difference in environmental contamination levels, with the higher levels being found in the Dutch hospital. Personal hygiene practices differ as well, for instance, national guidelines forbid the wearing of jewellery in the Dutch hospital.

Willemsen said: "The standards and guidelines in the two hospitals showed substantial differences, which makes it impossible to compare the level of quality of infection control and antimicrobial use in the two hospitals in different countries with different national guidelines. More evidence-based standardization of guidelines around the globe is needed to allow international comparisons of the standard of care."

Materials provided by European Society of Clinical Microbiology and Infectious Diseases. Note: Content may be edited for style and length.

https://www.sciencedaily.com/releases/2018/04/180421085734.htm

Corporate Social Responsibility: Orion offers 'Orion pharma Medical Scholarship-2018'

As a part of Corporate Social Responsibility (CSR), Orion Pharma Ltd. Conducted an inauguration ceremony of "Orion Pharma Medical Scholarship" at Orion House on 10th May 2018 presided by the Honorable Chairman of Orion Mr. Obaid-ul Karim, Honorable Managing Director of Orion Md. Salman Oabidul Karim and Director & Trustee of Orion Pharma Welfare Trust Mrs. Arzuda Karim.

Orion Pharma always appreciates the 'going-to-be-doctor' who already got admitted into the medical college and decided to sacrifice their life in exchange of bringing smile to the face of ailing humanity. Orion Pharma Ltd. has decided to be with those masterminds in this voyage towards a noble mission by offering scholarship to those medical students of the country who cannot afford the exorbitant cost of medical education. Medical Colleges with 5 (five) students from each academic year (1st year to 5th year). All poor and meritorious students of each year (1st year to 5th year) from different Govt. Medical Colleges are eligible to apply for this scholarship.

The program ended up with proving Scholarship cheque to 08 Medical Students from different Medical Colleges. Medical students along with their parents were present on this auspicious program and showed heartfelt gratitude to Orion Pharma Management for this noble effort.

Medical Services Department (MSD) of Orion Pharma Ltd. successfully arranged momentous number of Scientific Seminar, Round Table Meeting and Clinical Meeting in different venues in all over the Country.

Scientific Seminar (SS)

Khulna Medical College, Khulna

A Program was arranged by the Department of Gastroenterologists of KMCH on 26th April, 2018 at the Seminar Room of Khulna Medical College Hospital, Khulna. The program was presided over by the Professor Dr. Abdul Ahad, principal & Head of the Dept. Gastro, KMCH. About 100 Doctors was attended the session.

Upazilla Health Complex, Beanibazar

On 6th May, 2018 a Scientific Seminar was arranged by the Upazilla Health Complex, Beanibazar on "The bad effects of impurities in present pharmaceuticals API". Dr. Moazzem Ali Khan, UN & FPO enlightened the seminar as the chairperson.

New Star Lab Ltd. Chittagong

An AGM cum Scientific Seminar was arranged on 12th May, 2018 by New Star Lab Ltd. Chittagong. Dr. Md. Mozibul Haque Sirazee was key note speakers of the program. Dr. Mozammel Haque Sharifee , Director of the New Star Lab. Was the Chairperson of the program. About 35 Consultants enjoyed the session followed by exclusive lunch at Hotel well Park, O R Nizam Road, Chittagong.

Round Table Meeting (RTM)

Khulna Medical College & Hospital, Khulna

A RTM was arranged on 19th April, 2018 by the Department of Pediatrics of Khulna Medical College & Hospital, Khulna. Prof. Dr. Abdullah Al Mahbub was the Chairperson & Keynote Speaker of the conference. All members of the department were present in the program. It was concluded with a luscious refreshments sponsored by OPL.

Centre for the Rehabilitation of the Paralysed (CRP), Savar

On 12th April 2018 A RTM has been organized by CRP, Savar. Dr. Ishrat Jahan Urmi, Register, CRP, Savar was the keynote presenter of the meeting. Dr. Sayed Uddin Helal, MS (Neuro) was the Chairperson of the program. About 13 Consultants attended the session & enjoyed delicious lunch sponsored by OPL.

Sir Salimullah Medical College & Hospital, Dhaka

Gynae Department (Unit-5) of Sir Salimullah Medical College Hospital arranged a RTM on 4th June, 2018 at Star Kabab & Restaurant, Dhaka. Dr. Pritikona Das, Asst. Register was the keynote presenter & Chairperson of the program. 30 Doctors participated & enjoyed the session followed by Iftar cum Dinner.

Sumona Hospital, Dhaka

On 26th March, 2018 A RTM has been organized by Sumona Hospital, Dhaka at Birds Eye Roof Top Restaurant, Platon, Dhaka. Dr. S M Pervez Akter was the Keynote Presenter & Chairperson of the program. 25 Doctors participated & enjoyed the session followed by delicious lunch.

http://journal-index.org/ISSN-validator/issn-validator.php

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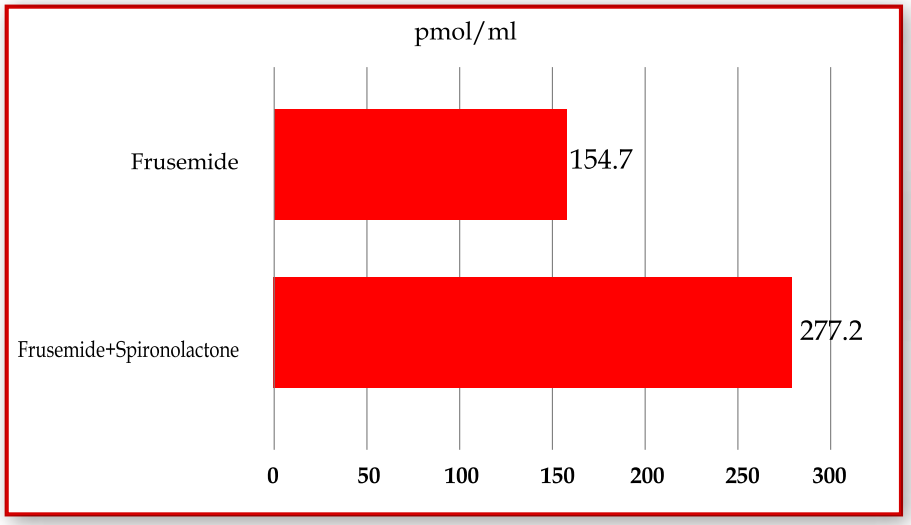

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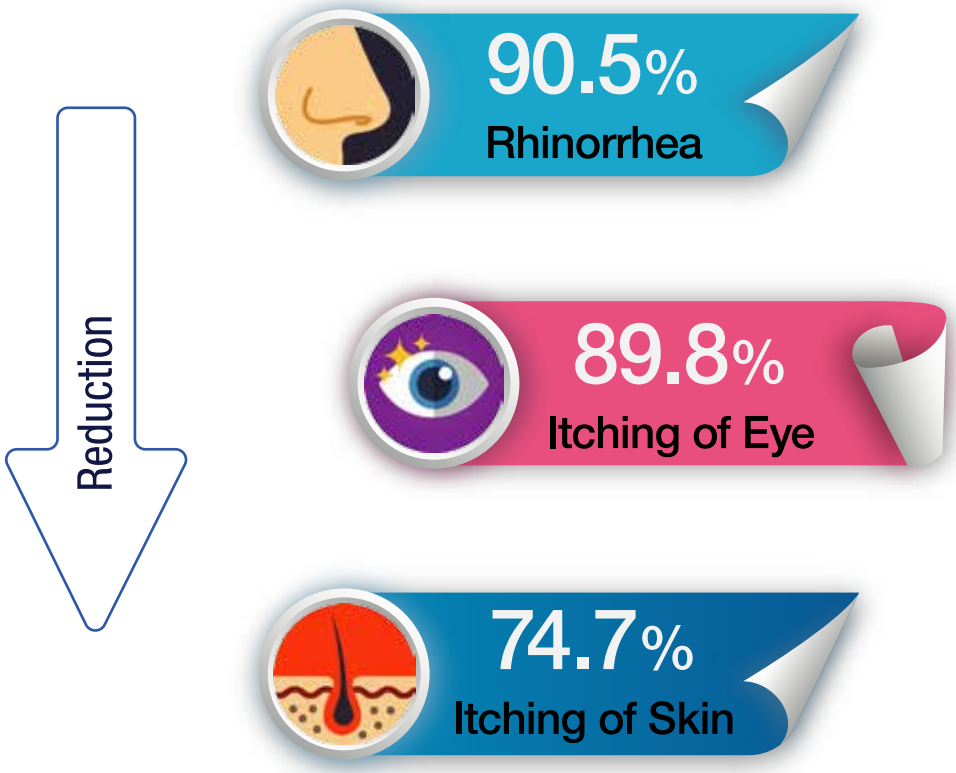

Fig.: Reduction of Allergic Symptoms with Desloratadine

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