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Editorial article (P-02) of this issue "Estimation of blood loss and factors influencing blood loss in Trans urethral resection of prostate (TURP)". The objective of this study is to assess the blood loss, identify the factors influencing blood loss during TURP.

The first original article (P-06) "Hypothyroidism Following Hemithyroidectomy: A study in a tertiary care hospital, Chittagong, Bangladesh." General objective of this study is to find out the incidence of Hypothyroidism after Hemi thyroidectomy in Bangladesh. And specific objective is to identify risk factors of Hypothyroidism in Bangladesh.

Review article (P-13) "Advised for Diagnostic Laparoscopy in chronic abdomino-pelvic disorders". This article based on some analytic information of few chronic disorders in relation of Diagnostic Laparoscopy (DL) that influenced the surgeons and gynecologists for the diagnostic confirmation in their practice area, as well as the review make their confidence grow up through with DL.

The first Observational Study (P-19) "Clinical profile of cirrhosis of liver in a tertiary care hospital".

Second Observational Study (P-24) "How A Orthopedic Surgeon Becomes A Orthopedic Physician: A Prospective Study Of Last Eighteen Years".

Thanks all of readers, contributors & reviewers for their continued support.

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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.



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Estimation of blood loss and factors influencing blood loss in Trans urethral resection of prostate (TURP)

Om Prakash Prasad¹, Shruti Pandey², Santosh Mishra³

INTRODUCTION

Transurethral resection of the prostate (TURP) remains the gold standard surgical treatment of benign prostatic hyperplasia (BPH) causing symptomatic bladder outlet obstruction. (1) However one of the main disadvantage being the blood loss during the resection and in early postoperative period. The possible factors which can influence the blood loss are the weight of prostate resected, resection time, histology of the gland, type of anesthesia. (2) With the introduction of medical therapy in the 1980s, bleeding during TURP has significantly decreased. (3, 4) Blood loss during TURP can be estimated from difference between pre and post operative hemoglobin concentration. The objective of this study is to assess the blood loss, identify the factors influencing blood loss during TURP.

MATERIAL AND METHODS

This is a prospective study conducted in Hindu Rao hospital between Dec 2016 and Jan 2018. A total of 50 patients with BPH including 2 prostate malignancy were treated with TURP for severe symptoms or complications of BPH and were included in this study. Informed consent was obtained from all patients. The data were collected in a predefined proforma. Pre-operative work-up included clinical evaluation, full blood count, urine RE/ME, estimation of urea and electrolytes, coagulation profile, midstream urine culture, estimation of flow rate, electrocardiogram, x-rays of chest, x-ray KUB, ultrasound scan of kidneys and bladder, and a transrectal ultrasound scan of prostate was done. All patients with BPH requiring TURP were included however those with coagulation disorder/bleeding diathesis, Patients on anti-coagulants, medical management advised for BPH and those with renal failure or bladder neuropathy were excluded.

Prostate size was calculated by Coronal and Sagittal section and volume estimation done using either prolate or ellipsoid formula ($\text{volume} = \pi/6 \times \text{transverse diameter}^2 \times \text{AP diameter}$).

PROCEDURE

Complete history was taken and physical examination was done. Prostate size was determined by digital rectal examination (DRE) and Ultrasonography using Prostate ellipsoid formula, Urinalysis, Complete Hemogram, Blood Urea and Serum Creatinine were measured. Uroflowmetry done pre and post operatively in all cases who did not have Urinary reten-

tion. PSA level was measured only in patients with suspicion of carcinoma by DRE or USG findings. All patients underwent preoperative anaesthetic evaluation for fitness to undergo regional as well as general anaesthesia. The procedure was done under spinal anesthesia, with the patient in lithotomy position. All operations done in lithotomy position with Karl Storz 24 Fr. Resectoscope (monopolar) with glycine (1.5%) as irrigant with Nesbitts and Blandy's technique. Under full Aseptic and Anti-septic precautions, CPE done with 22 Fr and 30° telescope. If any difficulty in sheath insertion (narrow meatus and distal urethra), urethral dilatation done with Hegar's dilator upto 9/11 size. After CPE 22Fr continuous irrigation resectoscopy with passive cutting was used for resection. Resection done with Monopolar Diathermy on pure cutting mode. Pin point coagulation and roller ball coagulation used for hemostasis. Time measured from Resectoscope insertion to removal was counted as total time of surgery. Total volume of irrigation fluid used during surgery was measured on post operation day 1 measured. Sample collected from irrigation fluid from bucket after stirring it for continuous 5 minutes. Both (intra-op and post-op) fluid samples were sent for Hemoglobin (Hb) estimation. Hb estimation of fluid was done by automated hematology analyser. All prostatic chips resected were dried, weighed and dispatched for histopathology examination.

Blood loss was estimated using formula:

$$\text{Blood loss (in mL)} = \frac{(\text{Hb content of Irrigation fluid } (\frac{\text{gm}}{\text{L}}) \times \text{Volume (L)} \times 1000)}{(\text{preoperative hemoglobin } (\frac{\text{gm}}{\text{dL}}) \times 5.2)}$$

The result was assessed using Student's T test, Pearson product, Moment correlation coefficient and Chi-square test as appropriate. Collected data were subjected to statistical analysis. Statistical Package for the Social Sciences, version 22.0.2 (SPSS Inc, Chicago, IL, USA) was used for the statistical analysis.

RESULTS

The characteristics of the patient is shown in table 1. The mean age of presentation in our settings is 60 years. Average gland size is 54.9gms.

There is positive correlation between gland size and blood loss

(0.54) and operation time (0.396). There is no relation between the age and prostate size and hence the blood loss.

There is positive correlation of gland size and duration of operation (0.78). The average duration of operation is 54.46 min. Average amount of tissue resected is 29.10 gm. The mean blood loss (including both intraoperative and postoperative blood loss) in TURP is 133.33 ml. On histopathological examination of TURP specimen two subjects were found to have malignancy. The type of presentation, elective or otherwise, and the histological nature of the prostate did not influence blood loss.

There is a significant positive relation between the amount of tissue resected in TURP and the amount of blood loss, $r = 0.748796$, p value $(6.13E-10) < 0.001$

There is a significant positive relation between the size of prostate and the amount of blood loss in TURP, $r = 0.53892$, p value $(6.47E-05) < 0.001$

There is a significant positive relation between the Time spent in TURP and the amount of blood loss, $r = 0.395828$, p value $(0.004874) < 0.05$

Table 1

Mean age	59.95
Average gland size :	54.9 gms
Average amount of tissue resected	29.10 gm
Mean blood loss	133.33 ml
Average operation duration	54.46 min

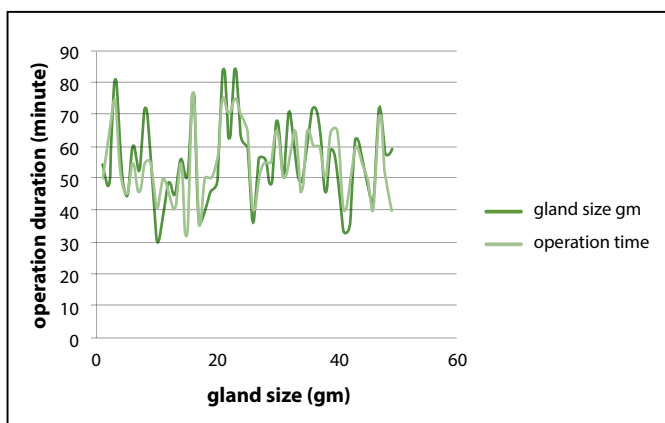


Fig 2. graph show coorelation between gland size and operation duration.

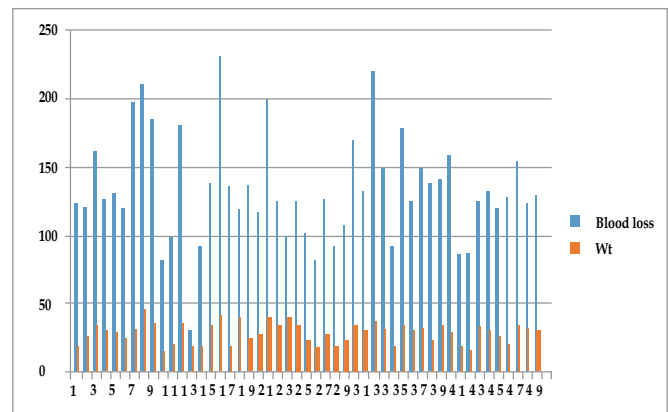


Fig 3. showing amount of blood loss with amount of tissue resected during TURP.

DISCUSSION

TURP is an invasive procedure to remove the overgrowth of prostate tissue. Despite the more recent development of less-invasive treatments, TURP is still considered the “gold standard” of prostate surgery options and the preferred treatment for BPH. (1) TURP is the most commonly done procedure for benign enlargement of prostate with less postoperative complications. Blood loss during TURP is one dreadful complication associated with TURP has been extensively studied. Various factors like age, gland size, duration of operation, preoperative hemoglobin, type of anesthesia used, weight of resected tissue has been found to be associated with blood loss during TURP. (5) Kirollos M.M and Cambell N2 published an audit of factors influencing bleeding in TURP. They reported that the perioperative blood loss was equivalent to a decrease in hemoglobin of 10-15 gm/l (8-11%) in TURP. The Resected tissue weight was the most important factor in determining blood loss. (6) Aiden M O, Donnell et al. Anesthesia for TURP analyzed various factors associated with excessive bleeding include large gland, extensive resection (>40-60 g of prostate chippings), coexisting infection, prolonged surgery (>1 h), and the presence of a preoperative urinary catheter. The histology of the gland is not associated with differences in bleeding, which was similar to our findings.

R.A.S Hemat, studied factors affecting blood loss in TURP. Age of the patient – bleeding was more severe in old patients. Histology - Increased bleeding from Benign gland. Presence of UTI causes increased blood loss in UTI due to secondary Hemorrhage. Type of Anesthesia had no conclusive difference. Drugs Aspirin, Heparin, causes increased blood loss. Weight of resected gland, Increased blood loss in large resected gland weights. Operative experience have differences in blood loss. Significant bleeding after endoscopic prostatic surgery, although increasingly less common, is still a potentially life-threatening complication. However, transurethral resection of larger prostates is associated with a higher incidence of bleeding requiring transfusion, with the weight of resected tissue being the most important measureable factor in determining blood loss.

Jan Eken gren and Robert G. Hahn study mean weight of resected tissue was 16.7(2-171) P value is <0.05 which is statistically significant influential factor with blood loss.(7)In our study mean resected tissue wt is 29.10gms. P value is p value (6.13E-10) <0.001 which is statistically highly significant influential factor with blood loss.

Various prophylactic measures have been employed to reduce peri-operative bleeding including cessation of anticoagulant medical therapies such as aspirin products and warfarin .More contemporary strategies for reducing peri-operative blood loss are the use of 5-alpha-reductase inhibitors such as Finasteride and Dutasteride.(8) Recent evidence has demonstrated a 4-week course of Finasteride, pre-operatively, results in a reduction in the total amount of bleeding and the amount of bleeding per gram of resected tissue at TURP.

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CONCLUSION

The concept of measuring the blood loss with the Low Hemoglobin Photometer has been proven to be an objective, reliable and easy method.The extent of blood loss associated with TURP is multifactorial and it is impossible to measure the effects of single factor while controlling all others..Of the measured factors, the weight of resected tissue is clearly the most important factor significantly increases the blood loss. Other factors like larger gland size and the longer resection time significantly increase blood loss. A meticulously performed TURP with reasonable speed and attention to details is the way forward in reducing perioperative blood loss.

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“Hypothyroidism Following Hemithyroidectomy: A study in a tertiary care hospital, Chittagong, Bangladesh”

Dr. Ashik Ikbal¹, Professor Mostafa Mahfuzul Anwar², Dr. Tareq Uddin Ahmed³

ABSTRACT

The objective of this study is to determine the incidence, risk factors and management of hypothyroidism occurring after hemithyroidectomy for benign non-toxic thyroid disease. We conducted a prospective Cross sectional study of 50 euthyroid patients with benign non-toxic thyroid disease who had undergone hemithyroidectomy from January 2012 to December 2012 admitted in the department of otolaryngology and Head Neck Surgery, Chittagong Medical College Hospital. All patients were evaluated for age, sex, pre-operative and post-operative TSH levels, histopathology and follow up. Time of diagnosis and therapeutic dose of thyroid hormone were determined for patients with hypothyroidism. Out of 50 patients 11(22%) patients had become hypothyroid after surgery (9 females and 2 males). Female & male ratio are 5.25:1. The remaining 39 patients (33 females & 6 males) were euthyroid. The mean preoperative serum thyroid stimulating hormone (TSH) levels in hypothyroid and euthyroid groups were 3.14μIU/L & 2.008 μIU/L respectively. A tissue diagnosis consistent with multi-nodular goitre (27%), lymphocytic infiltration or hashimoto thyroiditis (18%) compared with euthyroid patients (30% & 2%). Approximately 15-30% of patients who undergo hemithyroidectomy may have this complication, and some may need thyroid hormone replacement therapy. Patients at increased risk for postoperative hypothyroidism should be made aware of their risk factors and undergo more intensive follow-up.

Key words: Hypothyroidism, Hemithyroidectomy, Euthyroid, Incidence

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INTRODUCTION

Hypothyroidism results from insufficient production and secretion of thyroid hormones. This may be due to disturbance within the thyroid gland itself (Primary hypothyroidism) or within the hypothalamic-pituitary-thyroid axis (Secondary hypothyroidism).¹ The operation of hemithyroidectomy (total thyroid lobectomy and isthmusectomy with preservation of the contralateral lobe) is indicated for patients with a unilateral thyroid mass that is causing compressive symptoms, cosmetic concern or to exclude thyroid malignancies.² Hypothyroidism can occur after lobectomy if the remaining thyroid lobe does not produce sufficient thyroid hormone to maintain a euthyroid state. Several studies have evaluated thyroid function after hemithyroidectomy for benign thyroid disease. The reported incidence of hypothyroidism after hemithyroidectomy has been found to vary from 5.0% to 49%, with most studies reporting a range of 15-30%.²⁻⁴ This disparity in results is partially due to differences in their definition of hypothyroidism and to differences in length of follow-up. Patients may have subclinical and clinical hypothyroidism. Serum TSH

levels should be routinely checked after hemithyroidectomy to detect hypothyroidism. Most patients who are found to have an elevated TSH level after hemithyroidectomy will require thyroid hormone replacement therapy. However, some patients may become euthyroid without intervention.⁵ In the past, it was common practice for physicians to place most post-hemithyroidectomy patients on prophylactic thyroid suppression therapy with low-dose levothyroxine. The rationale for the strategy was based on the assumption that the addition of low dose levothyroxine would prevent recurrence of disease in the remaining thyroid tissue by inhibiting endogenous secretion of thyroid-stimulating hormone (TSH). A consequence of this practice was that the administration of levothyroxine prevented physicians from recognizing those patients who would have otherwise become hypothyroid after hemithyroidectomy. In more recent years, physicians usually stopped administering thyroid suppression therapy during the immediate post-operative period. Instead, the new strategy was to follow these patients clinically for signs of recurrence.⁷ Hypothyroidism as a sequel of hemithyroidectomy may remain unnoticed most of the time.⁵ Mild hypothyroidism after hemithyroidectomy may

subside after a few months as the remnants of thyroid tissue is stimulated by the rising TSH. Furthermore, post-operative hypothyroidism in patients who had chronic hypothyroidism and do not receive hormone replacement therapy early after operation can be severe.⁸ The incidence and risk factors for development of hypothyroidism after hemithyroidectomy remain unclear. We conducted a study to identify certain risk factors that may place a patient at a higher risk for developing hypothyroidism after hemithyroidectomy. These potential risk factors includes age, sex, tissue pathology characteristics, the size of thyroid remnant, a history of neck irradiation, and co existing thyroid autoimmune disease.⁹ Post-operative thyroid replacement therapy is initiated usually Levothyroxine at 1.8µgm/kg/day. The dose of Levothyroxine is adjusted on the basis of the result of serum thyroid stimulating hormone (TSH) and thyroxine (T4) levels performed 4 to 6 weeks after the thyroid replacement therapy.¹⁰

II Objectives

a) General objective:

1. To find out the incidence of Hypothyroidism after Hemithyroidectomy in Bangladesh

b) Specific objectives:

1. To identify risk factors of Hypothyroidism in Bangladesh

III MATERIALS AND METHODS

We carried out a prospective Cross Sectional Study among 50 euthyroid patients with benign non-toxic thyroid disease who had undergone hemithyroidectomy from January 2012 to December 2012 admitted in the department of otolaryngology and Head Neck Surgery, Chittagong Medical College Hospital. Subject selected by adopting a purposive sampling techniques with maintaining some inclusion criteria.

IV RESULTS

From 2012 January to 2012 December total 50 patients underwent hemithyroidectomy in Chittagong Medical College Hospital. The main indication for surgery was exclusion of malignancy, cosmetic consideration and relief of compressive symptoms. Of them 42 (84%) were female, 8 (16%) were male and female male ratio was 5.25:1. The age of the patient ranged from 18 years to 60 years (mean age 36years) with a maximum age of patient in 3rd and 4th decade. Only 4 patients (3 females & 1 male) aged below 20 years. Hypothyroidism following hemithyroidectomy developed 22% and remaining 78% were euthyroid. Among hypothyroid patient 9 (81.81%) were female and 2 (18.18%) were male. Maximum incidence of hypothyroidism following hemithyroidectomy in 3rd and 4th decade.

Compared with those who were euthyroid, there were no significance difference in age, family history of goitre, side of surgery, but post-operative TSH level between two means were significant (P value is <0.01). The pathological diagnosis after surgery were nodular goitre 5 (45.45%), multinodular goitre 3 (27.27%), hashimotothyroiditis 3(27.27%) and follicular adenoma 1(9.09%). The potential risk factors for hypothyroidism in this study were female (82%) and less than 45 years, preoperative mean TSH level 3.14µIU/l, multinodular goitre (27%), hashimoto thyroiditis (18%). In our study the follow-up schedule was at 6weeks, 3 months and 6 months after surgery, then yearly thereafter. Among hypothyroid patients 5(45.45%) were subclinical and 6 (54.54%) were clinical and 9 patients required postoperative levothyroxine therapy.

Figure I: Age & Sex distribution of the study participants (n=50)

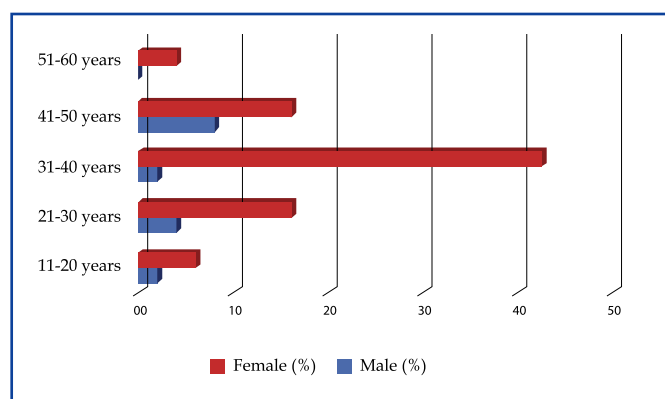


Table 1: Incidence of hypothyroidism after hemithyroidectomy (n=50)

Diseases	Frequency (%)
Hypothyroid	11(22%)
Euthyroid	39(78%)

Table II: Incidence of hypothyroidism after hemithyroidectomy according to sex (n=50)

Sex	Total number of patients	Number of patients with hypothyroidism	Percentage (%)
Male	08	02	18.18
Female	42	09	81.81

Table III: Incidence of Hypothyroidism after hemithyroidectomy(age sex relation)(n=50)

Age group	Male	Female	Total number of patients
11-20	0	1	1
21-30	1	1	2
31-40	0	4	4
41-50	1	1	2
51-60	0	2	2

Table IV: Post-operative TSH, Age, Sex, Family history of thyroid disease, Side of operation (n=50)

		Post-operative Euthyroid N = 39	Post-operative Hypothyroid N = 11	P Value
Post-operative TSH (Mean)		3.06 μ IU/L	13.06 μ IU/L	< 0.01
Age (mean)		35.69	36.27	0.08
Sex	Female	33 (84.61%)	9 (81.81%)	
	Male	6 (15.38%)	2 (18.18%)	
Family history of thyroid disease	Yes	5 (12.82%)	2 (18.18%)	0.14
	No	29 (74.36%)	7 (63.64%)	
	unknown	5 (12.82%)	2 (18.18%)	
Side of operation				0.08
	Right	22 (56.41%)	7 (63.63%)	
	Left	17 (43.58%)	4 (36.36%)	

Table V: Pathology of resected tissue (n=50)

Histopathology	Post-operative Euthyroid N = 39	Post-operative Hypothyroid N = 11
Nodular goitre (adenomatous, goitre, hyperplastic)	23 (58.97%)	5 (45.45%)
Follicular adenoma	3 (7.69%)	1 (9.09%)
Multinodular goitre	12 (30.76%)	3 (27.27%)
Hashimoto thyroiditis	1 (2.56%)	2 (18.18%)

Table VI: Potential risk factors for hypothyroidism

Risk Factors		Hypothyroid (N = 11)	Euthyroid (N = 39)
1. Sex	Female	9 (81.81%)	33 (84.61%)
2. Age	≤ 45 years	8 (72.72%)	36 (92.30%)
	>45 years	3 (27.27%)	3 (7.69%)
3. Pre-operative TSH(Mean)		3.06 μ IU/L	2.008 μ IU/L
4. Lymphocytic infiltration		1 (9.09%)	1 (2.56%)
5. Histologic type	Nodular goitre	5	23
	Follicular adenoma	1	3
	Multinodular goitre	3	12
	Hashimoto thyroiditis	2	1

Table VII: Preoperative & Postoperative TSH level in hypothyroid patient (n=11)

Sl. no	Sex	Age	Preoperative TSH level μ IU/L	Postoperative TSH level μ IU/L 6 weeks after surgery
1	Female	60	4.29	13.54
2	Female	31	3.31	18.69
3	Female	35	2.91	5.22
4	Female	23	3.90	11.14
5	Female	32	3.41	7.21
6	Female	55	2.87	14.17
7	Female	19	1.47	5.52
8	Female	42	1.97	21.5
9	Female	34	2.66	7.89
10	Male	23	3.50	7.06
11	Male	45	4.30	18.99

Table VIII: Classification of Hypothyroidism (n=50)

Sub-clinical hypothyroid (TSH level > 4.5 μ IU/L)		Clinical hypothyroid Abnormal serum TSH & free T4 concentrations or development of hypothyroidism symptoms	
Number of patient	Percentage (%)	Number of patient	Percentage (%)
5	45.45	6	54.54

Table IX: Recommendation protocols for follow-up after hemithyroidectomy²⁴

Author (year)	Recommended follow-up protocol
McHenry, et al. (2000)	All symptomatic patients should be treated with L-T4 replacement. If it is elected not to treat asymptomatic patients, they should have a baseline serum fT4 and total T3 level measured and a yearly evaluation including measurement of serum fT4, T3, TSH levels to assess for progression to overt hypothyroidism.
Miller, et al. (2006)	Recommendation is to obtain a postoperative TSH measurement 8 to 12 weeks after surgery, followed by the measurement of TSH levels at 6 months and 12 months after surgery. If the TSH level is normal at 1a2 months, biannual to annual determination of TSH levels was encouraged unless symptoms of hypothyroidism manifest.
Wormald, et al. (2008)	Patients with risk factors (raised TSH level or lymphocytic infiltration) should undergo thyroid function tests at 3,6,12 months and annually thereafter postoperatively. In all other patients, testing of thyroid function once at 1-year is sufficient.
Su, et al. (2009)	TSH monitoring at 6 months, 12 months, and then yearly for 2 years was recommended for asymptomatic patients. High-risk patients should have serial TSH for the first year, then yearly thereafter.
Tomoda, et al. (2011)	Postoperative TSH level should be checked 4 weeks after surgery and again 3 months. At 3 months after operation, the decision regarding prescription of levothyroxine to patients with subclinical hypothyroidism (more than 10μIU/ml). After 3 months after operation, the measurement of TSH levels was recommended at 6 and 12 months after surgery. If the TSH level is normal at 12 months, biannual to annual determination of TSH levels could be checked unless symptoms of hypothyroidism manifest.
Johner, et al. (2011)	To obtain a postoperative TSH measurement for all patients at 6 weeks after surgery, followed by the measurement of TSH levels at 6 and 12 months after surgery was advised. TSH level at 3 months was no longer recommended because most patients displayed marked increase in their TSH level immediately after surgery, that subsequently normalized over time.

V DISCUSSION

The operation of hemithyroidectomy is a relatively commonly performed procedure. It is indicated for patients with a unilateral mass to exclude carcinoma, to relieve compressive symptoms or for cosmetic considerations. Hypothyroidism, both clinical and subclinical, is a potential consequence of hemithyroidectomy and is associated with a number of adverse clinical outcomes. The routine use of thyroxine for all patients after surgery is no longer adopted because of questions over its efficacy and possible side effects. Therefore, it is important to identify those patients who are at risk of developing hypothyroidism in the early postoperative period so that they can be more vigilantly monitored using thyroid function tests. There is no universally accepted definition of normal thyroid function, based upon thyroid function assays. For this study, we have adopted a TSH level of 4.5 μIU/L as the upper limit of normal.¹¹⁻¹² Our results demonstrate an incidence of hypothyroidism following hemithyroidectomy of 22% (clinical

hypothyroidism was seen in 55% and subclinical hypothyroidism in 45%). All patients are follow up after 6 weeks of surgery and routinely measure Serum TSH level. Risk factors for hypothyroidism following hemithyroidectomy include the female (82%), less than 45 years, preoperative mean TSH level 3.14 μIU/L, multinodular goitre (27%), Hashimoto thyroiditis (18%). Thyroid function after hemi-thyroidectomy is clearly dependant upon the functional capacity of the thyroid remnant. It would be intuitive to assume that patients with ongoing thyroid disease would be at increased risk of developing subsequent hypothyroidism.¹⁵ Our study demonstrates that a relatively raised (greater than the mean TSH but still within normal limits) preoperative TSH is also associated with an increased risk of developing hypothyroidism. A raised TSH can be interpreted as a reflection of deteriorating thyroid reserve and subsequently an increased risk of developing post-operative hypothyroidism.¹⁵ Our results also support the hypothesis that lymphocytic infiltration/ Hashimoto thyroiditis is a signifi-

cant risk factor for the development of hypothyroidism.¹⁷⁻¹⁸ The presence of lymphocytes in thyroid tissue would indicate active or ongoing disease and therefore the possibility of a progressive decline in thyroid function.¹⁹ Multi-nodular goitre has been associated with an increased incidence of post-operative hypothyroidism.¹⁹ This will also observed in our study. Multi-nodular goitre is suggestive of an active disease process, it would have to be assumed that it may alter the function of remaining thyroid tissue.¹⁵ In our country maximum incidence of thyroid disease occur in female. In our study majority of patients are also female and below 45 years of age. Several studies have evaluated thyroid function after hemithyroidectomy for benign thyroid disease. The reported incidence of hypothyroidism after hemithyroidectomy has been found to vary from 5.0% to 49%, with most studies reporting a range of 15-30%²⁻⁴. Our figures are approximately midway and agree favorably with other studies. This disparity in results is partially due to differences in their definition of hypothyroidism and to differences in length of follow-up. Hypothyroidism, both clinical and subclinical, is a potential consequence of hemithyroidectomy and has been associated with a number of adverse clinical outcomes. However, hypothyroidism after hemithyroidectomy is an under recognized complication, with patients most often monitored only for a short time postoperatively.¹⁵ There is no widely accepted guideline for the monitoring of thyroid function after hemithyroidectomy, leaving hypothyroidism as the most common resulting complication. Follow-up guidelines vary widely and generally consist of a single postoperative measurement of TSH. Some patients may not be examined at all until the development of overt hypothyroidism. If thyroid dysfunction is detected, the decision to start thyroid hormone replacement therapy is usually based on the preference of the treating physician, patient symptoms, and the degree and duration of TSH elevation, rather than on evidence obtained from clinical trials. Therefore, it is important to identify those patients who are at risk of developing hypothyroidism soon after surgery so that they can be more attentively monitored using thyroid function tests.¹⁵ Several recommendation protocol for follow-up after hemithyroidectomy is given below- Postoperative TSH measurement 8 to 12 weeks after surgery, followed by the measurement of TSH levels at 6 months and 12 months after surgery. If the TSH level is normal at 12 months, biannual to annual determination of TSH levels was encouraged unless symptoms of hypothyroidism manifest.¹⁹ Postoperative TSH level should be checked 4 weeks after surgery and again 3 months. At 3 months after operation, the decision regarding prescription of levothyroxine to patients with subclinical hypothyroidism (more than 10 μ IU/ml). After 3 months after operation, the measurement of TSH levels was recommended at 6 and 12 months after surgery. If the TSH level is normal at 12 months, biannual to annual determination of TSH levels could be checked unless symptoms of hypothy-

roidism manifest.²⁰ To obtain a postoperative TSH measurement for all patients at 6 weeks after surgery, followed by the measurement of TSH levels at 6 and 12 months after surgery was advised. TSH level at 3 months was no longer recommended because most patients displayed marked increase in their TSH level immediately after surgery, that subsequently normalized over time.²¹ Our guide line was measurement of serum TSH level 6 weeks after surgery and again after 3 months. At 3 months after operation, the decision regarding prescription of levothyroxine to patients with subclinical hypothyroidism (more than 10 μ IU/ml). Then measurement of TSH levels was recommended at 6 and 12 months after surgery. If the TSH level is normal at 12 months, biannual to annual determination of TSH levels could be checked unless symptoms of hypothyroidism manifest.

VII LIMITATIONS OF THE STUDY

This study needs longer follow up periods to confirm this, but follow up periods of our study were only 6 months.

In our study all patients were not completed the follow up with their surgeons. All patients were not operated by single surgeon. Weight of excised gland might reflect the volume of the contra lateral or opposite lobe that was reported to be associated with hypothyroidism. Preoperative measurement of thyroid auto-antibodies which were further variable to predict post-operative hypothyroidism were not performed in our study. In our study all bio-chemical values were not performed in single laboratory which reflected different reference values.

VII CONCLUSION AND RECOMMENDATIONS

The incidence of hypothyroidism after hemithyroidectomy is not negligible and should not be overlooked. Approximately 15-30% of patients who undergo hemithyroidectomy may have this complication, and some may need thyroid hormone replacement therapy. Risk factors such as elevated preoperative TSH levels, elevated concentrations of thyroid autoimmune antibodies, degree of thyroiditis, age, and residual thyroid volume are associated with an increased risk of hypothyroidism after hemithyroidectomy. Patients at increased risk for postoperative hypothyroidism should be made aware of their risk factors and undergo more intensive follow-up.

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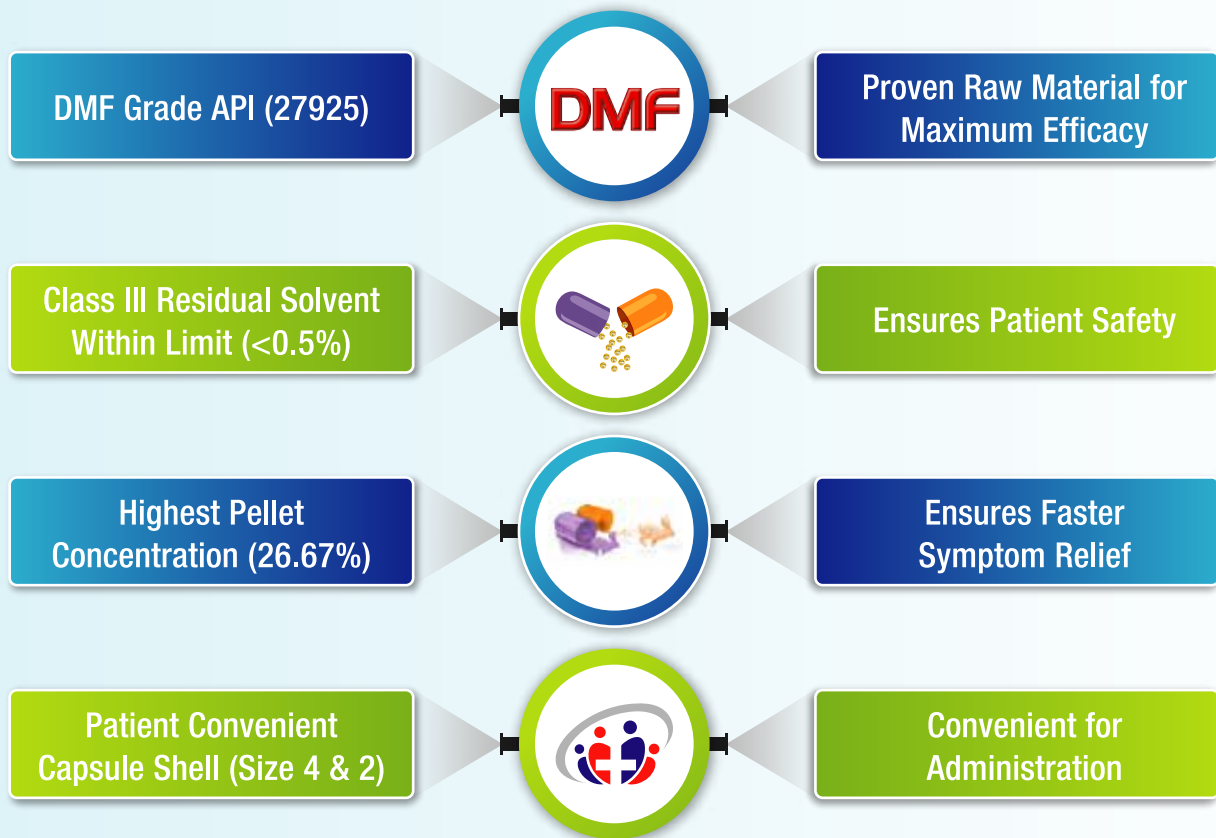
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Advised for Diagnostic Laparoscopy in chronic abdomino-pelvic disorders

Dr. Sheikh Sufian Rustom¹

ABSTRACT

As a reviewed article, here I focused on some analytic information of few chronic disorders in relation of Diagnostic Laparoscopy (DL) that influenced the surgeons and gynecologist for the diagnostic confirmation in their practice area, as well as the review information make their confidence grow up through with DL. Now a days DL is the choice of surgeons and gynecologist not only the confirmatory diagnostic tool and if necessary make it convert to therapeutic purpose (Surgical Laparoscopy) for the patient's wellbeing. Diagnostic laparoscopy is a procedure, that has made a great strides in the evaluation and if possible, necessary treatment of intra-abdominal surgical pathology. So, it is not only facilitates the diagnosis of intra-abdominal and pelvic diseases but also makes the possible therapeutic intervention. It helps to find the causes of pain or a growth in the large surface of abdomen and pelvic area when X-ray or ultrasound results are not clear. In case of metastatic intra-abdominal malignancy is suspected, computed tomographic (CT) scan or ultrasonic examination will not always display the lesion smaller than 1 cm, where as they can often be seen during laparoscopy. Now a days, used by Gynecologists as an important diagnostic tool for Tubal patency test (TPT) in infertility, Chronic pelvic pain (CPP), Endometriosis and Abnormal uterine bleeding (AUB). Most importantly laparoscopy facilitates both Surgeons and Gynecologists obtaining biopsy specimen, culture and aspiration. Even all the deep organic parts those are not amenable on inspection can be evaluated by using ultrasonic laparoscopy.

According the four reviewed articles total patients (35+120+53+417) in number 625 is noted from different focusing sites in the time of 15 years (from 1996 to 2012) is very clear that day by day the DL is upcoming important tools for modern humanity for its diagnostic confirmation and the same time converting to take necessary therapeutic surgery without wastage of time and cost.

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INTRODUCTION

Basically innovative work of Ott, Kelling and Jacobus laid the groundwork for today's MAS. Their worked focused on a diagnostic role for MAS. During the 1930s advanced optics and the use of pneumoperitoneum made their innovation more powerful and it encouraged a group of physicians. But on emerging of CT Scan, MRI as well as Doppler USG made a tremendous impact on open diagnostic procedure after 1970s. Further innovations of video laparoscopy using three-chip cameras, highly modified usable electro-cautery promote the therapeutic laparoscopy in the past decade to diagnostic laparoscopy. [1]. In laparotomy surgeons can reach only to the site and can see only the scenario on his way but due to the optics advances, light transmission, and recent progress in electronic imaging (TV), as well as the introduction of miniature ultrasonic probes and laparoscopic laser techniques, offer surgeons to explore all the unseen corners of the magic box. Thus, on moment they can make their decision about the diagnosis and

therapeutic possibilities. At present more gynecologists are using the procedure to examine the organs where the possibilities of secondary deposits or even to take biopsies in the upper abdomen under visual control than are surgeons. Only question is 'Is it beneficial and cost effective?' The procedure is certainly cost effective and has a high diagnostic yield with an excellent safety record [2]. The major advantage is that it allows direct visualization of abdominal organs and the parietal peritoneum. When taking liver biopsies, it is very easy to miss a small metastatic lesion and obtain a normal tissue sample with the blind percutaneous technique. Laparoscopic target biopsy has the highest accuracy among all other techniques [3]. So, Diagnostic laparoscopy should be the examples of advances in the cases of relevant tissue samples from the suspected areas like non-resectable malignant tumors or other secondary metastatic organs (Liver, Mesenteric LN, posteriorly adherent Colon, Ovaries even deeply seated growth in POD) by avoiding unnecessary laparotomies.

MATERIALS AND METHODS

- A. Some of the articles reviewed, those related to the chronic disorders of different organs in abdominal and pelvic region.
- B. Statistical analysis of DL in different chronic conditions according the articles that published by different authors.

RESULTS

Study One – Riyadh Medical Complex, department of general surgery from 1999 through 2004. 35 patients recorded as referred for elective diagnostic laparoscopy with H/O-

Table - 1

Ascites	25	71%
Weight loss	19	54%
Abdominal pain	18	51%
Anorexia	16	48%
Pyrexia	11	31%
Chough	11	31%
Night sweating	6	17%
Diarrhea	4	11%

Table - 2

Suspected Diagnosis before DL (CT, USG, Regular Investigations)	Tuberculosis	22	63%
	Intra-abdominal malignancy	13	37%
Confirmed Diagnosis after DL	Benign pathology	19	54.3%
	✓ Tuberculosis	16	45.7%
	✓ Crohn's disease	1	2.9%
	✓ Cirrhosis	2	5.7%
	Malignant pathology	14	40%
	✓ Carcinometosis peritonei	10	28.6%
	✓ Lymphoma (Ileocecal -1, Nodal -2)	3	8.6%
	✓ Hepatocellular Carcinoma	1	2.9%
	No abdominal pathology	2	5.7%

The procedure DL was converted to formal laparotomy in 2 patients who had terminal ileal mass with proximal bowel loops distension. Both patients underwent right hemicolectomy. Final histology results showed Crohn's disease in one patient and adenocarcinoma in the other patient. [4, { 7 – 14 }]

Study Two –Dayanand Medical College and Hospital, Ludhiana. 120 patients admitted to the Departments of Surgery, with an uncertain diagnosis after four weeks of onset of symptoms-

Table - 3

Abdominal Pain	109	90.8%
Weight loss	11	9.16%
Fever	15	12.5%
Anorexia (Appetite loss)	11	9.16%
Vomiting	4	3.33%
Weakness	13	10.8%
Constipation	12	10%
Others	22	11%
Previous abdominal surgery	40	33.33%
Received anti-TB drugs	12	10%
Peripheral lymphadenopathy	8	6.66%
Palpable abdominal lump	28	23.3%

Table - 4

Suspected Diagnosis before DL (CT, USG, Regular Investigations)	Tuberculosis and others	52	
	Intra-abdominal malignancy	68	
	Omental/Organic (Liver)nodule	35	
	Small bowel tumor	4	
	Cirrhosis	8	
	Adhesions,by chronic inflammation	21	
Confirmed Diagnosis after DL	Benign pathology	61	63%
	✓ Tuberculosis	23	37%
	✓ Crohn's disease	3	
	✓ Cirrhosis	8	54.3%
	✓ Liver and ovarian cyst	14	45.7%
	✓ Post-operative adhesions	7	2.9%
	✓ Chronic Inflammation (Appendicitis, Pancreatitis)	6	5.7%
	Malignant pathology	51	40%
	✓ Carcinometosis peritonei	28	28.6%
	✓ Lymphoma	17	8.6%
	✓ Gastrointestinal tumor	4	2.9%
	✓ Angiosarcoma	2	
	No abdominal pathology	8	5.7%

Thirty-three subjects out of 120 cases (27.5%) had altogether new findings, while 87 (72.5%) cases with the previous findings. [5, { 15 – 21 }]

Study Three –Maternity and Children's Hospital, Ma'laga, Spain, Department of Pediatric Surgery, Between June 1996 and December 2001. Data recorded and analyzed on admitted 46 patients out of advised 53 patients and all are within 11years old.

Table - 5

After given advised	53	
✓ Patients admitted	46	86.6%
✓ Patients refused admission	7	13.3%
Clinical findings on admission		
✓ Bilateral non-palpable	7	15.2%
✓ Left sided non-palpable	22	47.8%
✓ Right side non-palpable	17	37%

Variety of imaging modalities including USG, CT Scan, MRI as well as more invasive procedures such as arteriography and phlebography also previous groin exploration none are given the accurate localization of testes. But laparoscopy enables the evaluation the position, size, and morphology of the intra-abdominal testis and helped the surgeon to make their decision converting to the operation.

Table - 6

Diagnostic confirmation by DL all of the 53 patients		
• Testis in intra-abdomen	28	52.83%
• Testis with vas and vessels in internal ring	18	33.96%
• Testis totally absent	7	13.20%

Table - 7

During DL some of the cases converting to SL among 53 patients		
• Laparoscopic orchioplexy (scrotal-21 and inguinal canal-3)	24	45.29%
• Laparoscopic orchiectomy	3	5.66%
• Laparoscopic inguinal hernia repair	14	26.41%

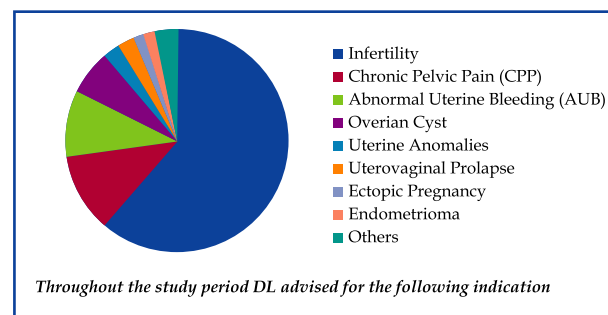
The management of impalpable testis in pediatric surgery, Laparoscopy has become an acceptable and special procedure for minimization the trauma and rapid recovery, also considerable for its reliable and highly accurate technique, as well as its extensive and high retroperitoneal mobilization. [6]

Study four –Department of Obstetrics and Gynecology at a tertiary care center in Delhi from January 2005 to December

2012. A total of 417 female cases admitted for Diagnostic laparoscopy. Out of 417 women DL was advised mainly for infertility throughout the study period followed by chronic pelvic pain (CPP), abnormal uterine bleeding (AUB) and some other indications also noted. 13 women were excluded due to inadequate data.

Table - 8

Throughout the study period DL advised for the following indication –		
Infertility	248	61.39%
Chronic Pelvic Pain (CPP)	46	11.39%
Abnormal Uterine Bleeding (AUB)	38	9.40%
Overian Cyst	26	6.43%
Uterine Anomalies	10	2.48%
Uterovaginal Prolapse	10	2.48%
Ectopic Pregnancy	6	1.49%
Endometrioma	7	1.73%
Others	13	3.21%



In that period among the cases 196 cases converted to Surgical Laparoscopy after the initial procedure. According the up growing sensitivity to the problems of women, life style and of course the quality of livelihood definitely laparoscopy is as a diagnostic as well as therapeutic tool under these circumstances. The basic advantage for visualizing the pathology and then treating it in the same sitting, especially in cases of infertility, ovarian cyst, and adhesions raising its acceptability. [7]

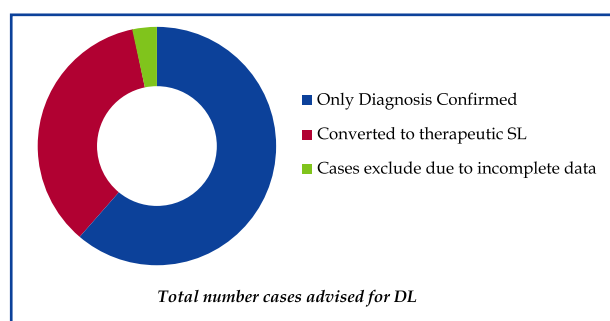
DESCRIPTION

Mentioned studies shows only 20 of cases excluded from the analysis only for inappropriate data otherwise all of cases attend to the ongoing DL procedure that they were advised. All the cases are differentially diagnosed along their chief complaints and respective clinical history. Then the regular investigations followed special investigations done to confirm the diagnosis and finally all are advised for DL along with the information for

further activities like diagnostic confirmation, to exclude the malignancy and metastatic staging and obviously for converting to therapeutic SL in possible cases in same sitting. No complications or complains were recorded during DL only three cases noted reopened related to SL.

Table - 9

Total number cases advised for DL	625	61.12%
• Only Diagnosis confirmed	382	35.68%
• Converted to therapeutic SL	223	3.20%
• Cases exclude due to incomplete data	20	



“Diagnostic laparoscopy is a safe and well tolerated procedure that can be performed in an inpatient or outpatient setting under general or occasionally local anesthesia with IV sedation in carefully selected patients. Diagnostic laparoscopy should be performed by physicians trained in laparoscopic techniques who can recognize and treat common complications and can perform additional therapeutic procedures when indicated”. [SAGES (The Society of American Gastrointestinal and Endoscopic Surgeons)] [8, 22 – 32 }]. Diagnostic laparoscopy may be useful if no diagnosis can be found by conventional investigations. Due to diagnostic and therapeutic advantages, laparoscopy is useful for the majority of conditions underlying acute abdominal pain, but noninvasive diagnostic aids should be exhausted first. Depending on symptom severity, laparoscopy should be advocated if routine diagnostic procedures have failed to yield the results.[EAES (European Association for Endoscopic Surgery) consensus statement] [9, {33 – 42 }].

CONCLUSION

Minimal access surgery presently prove itself a viable, safe, and comparatively cost effective alternative in the adult and pediatric patients in both of surgical and gynecological fields for confirming the diagnosis and in necessary cases turning to therapeutic surgical activities on same sitting. All the laparoscopic

associations regularly updating their guidelines and everyone is convinced, further development of MAS will allow the use both in DL and SL parallel and make the medical science to a one stop recovering services. Any procedures may have the complications associated with it. Bleeding and infections are not only the frequent complications but also some of the intra-abdominal organic injuries occasionally complained. Day by day frequently arranging training make the related physicians more skilled and experienced then the MAS technique will be commensurate in DL as well as SL.

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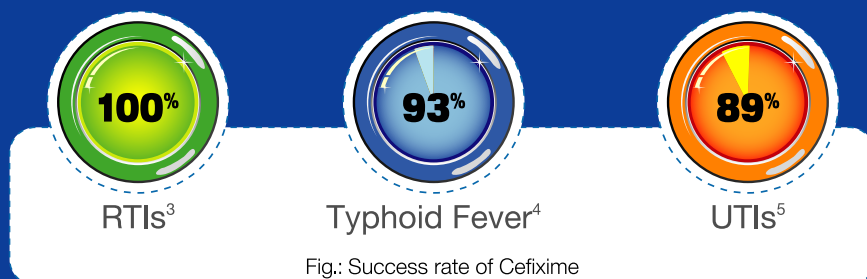
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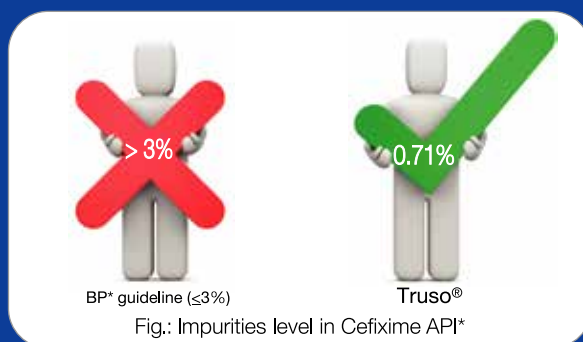
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Clinical profile of cirrhosis of liver in a tertiary care hospital

Kabir MA¹, Biswas PS², Ahmed N³, Dutta BR⁴, Yasmin D⁵

ABSTRACT

Background: Liver cirrhosis is an important health problem worldwide and is a common disease in our country. The aim of the study to see the clinical profiles of patients with cirrhosis of liver attending a tertiary care hospital.

Methodology: This observational, descriptive, cross-sectional, prospective hospital based study was carried out in the Department of Medicine, Gazi Medical College Hospital (GMC), Khulna. All cases attending the Department of Medical Gastroenterology as outdoor and/or admitted in ward with clinical features, laboratory and sonological findings suggestive of chronic liver dysfunction along with sonological and/ or endoscopic evidence of portal hypertension were included in the study.

Results: Majority 109(83.8%) patients had abdominal distension, 107(82.3%) had jaundice, 106(81.5%) had ascites, 90(69.2%) had loss of body hair, 77(59.2%) had spider naevi, 47(36.2%) had melena, 45(34.6%) had palmar erythema, 43(33.1%) had fever. Sixty three (48.5%) patients had Child Pugh C, 50(38.4%) had Child Pugh B and 17(13.1%) had Child Pugh A. Eighty one (62.3%) patients had MED score 10-19, 35(26.9%) had MED score 20-29 and 14(10.8%) had MED score ≥ 30 . The mean MED score was found 19.51 ± 6.73 .

Conclusion: More common clinical presentation of liver cirrhosis were abdominal distension, jaundice, ascites, loss of body hair, spider naevi, melena, palmar erythema and fever. Child Pugh C and B were most common.

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INTRODUCTION

Liver cirrhosis is an important health problem worldwide and is a common disease in Asian country.¹ Epidemiology of liver cirrhosis suggests that although Hepatitis B and C are still common in developing countries, alcohol related cirrhosis is increasing.² Cirrhosis of liver refers to a progressive, diffuse, fibrosing, nodular condition that disrupts the entire normal architecture of the liver. The majority of cases are attributed to excessive alcohol consumption, viral hepatitis, or nonalcoholic fatty liver disease worldwide.³ A large proportion of cirrhosis patients only come into clinical attention until complications arise and previously undiagnosed cirrhosis is still frequently found at autopsy. It can be primarily divided into two; compensated cirrhosis and decompensated cirrhosis. Initial clinical presentation of patients with decompensated cirrhosis is still common and is characterized by the presence of dramatic and life-threatening complications, such as haemorrhage, ascites, spontaneous bacterial peritonitis, or hepatic encephalopathy.⁴

MATERIALS AND METHODS

This observational, descriptive, cross-sectional, prospective hospital based study was carried out in the Department of Medicine, Gazi Medical College Hospital (GMC), Khulna, Bangladesh from January 2015 to December 2017. Informed consent was taken from patients or/ and patient relatives. All cases attending the Department of Medical Gastroenterology as outdoor and/or admitted in ward with clinical features, laboratory and sonological findings suggestive of chronic liver dysfunction along with sonological and/ or endoscopic evidence of portal hypertension were included in the study. On the other hand, those with cirrhosis with hepatic encephalopathy III / IV, critically ill patients and those who fail to give consent were excluded from the study. Detailed history with data regarding demographic variables, clinical features, symptomatology, modes of presentation, complications, etc. were collected and alongside blood investigations like complete blood count, platelets count, blood grouping, liver function test, prothrombin time / international normalized ratio (PT / INR), coagulation profile and viral serologies were collected. Abdominal ultrasound was done for liver and spleen size,

parenchymal echogenicity, portal vein diameter, and ascites after an overnight fasting. Each patient underwent UGI endoscopy usually within 24 hours of presentation by standard flexible gastro-duodenal endoscope and diagnostic findings were documented. Patients with acute variceal hemorrhage were treated with injection terlipressin or vasopressin and variceal band ligation. Clinical outcomes during hospitalization including rebleeding and mortality were assessed. Data were collected on a structured proforma. All categorical data were expressed in percentage and absolute number. All numerical continuous data were expressed in mean $\pm$ SD. The data analysis was done using SPSS version 23. All tests were analyzed with a 95% confidence interval and a P value of <0.05 was considered significant.

RESULTS

Out of 130 patients majority 45(34.6%) patients belonged to age 41-50 years. The mean age was found 47.5 ± 13.7 years. Males were predominant 116(89.2%). Male: female ratio was 8.3:1. Majority patients came from urban area (59.2%). Seventeen (13.1%) patients had family history of cirrhosis (Table I). Majority 109(83.8%) patients had abdominal distension, 107(82.3%) had jaundice, 106(81.5%) had ascites, 90(69.2%) had loss of body hair, 77(59.2%) had spider naevi, 47(36.2%) had melena, 45(34.6%) had palmar erythema, 43(33.1%) had fever. Other results are depicted in the table (Table II). Table III shows 63(48.5%) patients had Child Pugh C, 50(38.4%) had Child Pugh B and 17(13.1%) had Child Pugh A. Eighty one (62.3%) patients had MED score 10-19, 35(26.9%) had MED score 20-29 and 14(10.8%) had MED score ≥ 30 . The mean MED score was found 19.51 ± 6.73 (Table IV). The biochemistry findings were depicted in the table V.

Table I: Sociodemographic characteristics of the patients (n=130)

Sociodemographic characteristics	Frequency	Percentage
Age (years)		
≤ 20	7	5.4
21-30	17	13.1
31-40	22	16.9
41-50	45	34.6
>50	39	30.0
Mean $\pm$ SD	47.5 ± 13.7	
Sex		
Male	116	89.2
Female	14	10.8
Residence		
Urban	77	59.2
Rural	53	40.8
Family history of cirrhosis	17	13.1

Table II: Clinical features in the cirrhosis patients (n=130)

Clinical features	Frequency	Percentage
Abdominal distension	109	83.8
Jaundice	107	82.3
Fever	43	33.1
Hematemesis	38	29.2
Melena	47	36.2
Ascites	106	81.5
Loss of body hair	90	69.2
Spider naevi	77	59.2
Palmar erythema	45	34.6
Clubbing	21	16.2
Parotid swelling	31	23.8

Table III: Frequency of Category of Cirrhosis as Per Child Pugh Class (n=130)

Child Pugh Class	Frequency	Percentage
Child A	17	13.1
Child B	50	38.4
Child C	63	48.5

Table IV: Frequency of Category of Cirrhosis as MED score (n=130)

MED score	Frequency	Percentage
10-19	81	62.3
20-29	35	26.9
≥ 30	14	10.8
Mean $\pm$ SD	19.51 ± 6.73	

Table V: Biochemistry findings in Cirrhosis patients (n=130)

Biochemistry findings	Mean	±SD
Hb (mg/dl)	9.21	±2.71
TLC (mm3)	14548.57	±8521.12
Neutrophils (mm3)	75.08	±11.31
Lymphocytes (mm3)	24.3	±12.22
Platelet count	170461.51	±144261.43
Urea (mg/dL)	42.19	±28.12
Creatnine(mg/dL)	1.152	±0.821
Sodium (mmol/l)	130.4	±7.53
Potassium (mmol/l)	3.972	±0.897
RBS (mg/dl)	105.6	±43.3
PT (sec)	18.92	±9.61
T.Bilirubin (mg/dl)	7.05	±6.58
C.bilirubin (mg/dl)	4.52	±3.53
T.protein (mg/dl)	5.99	±1.37
Albumin (U/L)	2.37	±0.51
AST (U/L)	125.7	±99.3
ALT(U/L)	63.45	±97.59
GGT (U/L)	154.72	±253
Alkaline phosphatase	335.1	±211.5
Ascitic Fluid analysis		
TLC (mm3)	9178.19	±2610.53
Neutrophils (mm3)	7001.62	±2321.12
Lymphocytes (mm3)	219.51	±411.9
Protein (mg/dl)	1.501	±2.68
Sugar (mg/dl)	125.23	±66.3

DISCUSSION

In present study showed that majority 45(34.6%) patients belonged to age 41-50 years. The mean age was found 47.5±13.7 years. Males were predominant 116(89.2%). Male: female ratio was 8.3:1. Majority patients came from urban area (59.2%). Seventeen (13.1%) patients had family history of cirrhosis. In the Vijayan et al.⁵ study, the majority of the patients (34%) belonged to the age group of 51–60 years, followed by the age group of 41–50 years (26%). Only 2.67% of the patients were in the age groups of 21–30 years and 2% for 71–80 years. None of the patients were above 80 years and below 20 years. The youngest patient was 23 years old and oldest 74 years and the male to female ratio were 20:1. It also showed that (57.33%) of the patients were from urban area and the remaining (42.67%) from rural area. Only 14.67% of the patients had a family history of cirrhosis and in majority of

patients there was no history of cirrhosis in the family. In a retrospective study, the risk for bacterial endocarditis in cirrhotic patients: a population based 3 year follow up study by Tsung-Hsing et al.⁶ showed 71.1% males and 28.9 females. It also showed that most patients are in the age group between 60–74years (34.7%). In the retrospective study conducted by Rongey et al.⁷ 30% patients live in rural or highly rural areas. The change in lifestyle and stress factor is the most reliable reason for the result. Positive family history was noted in few patients. In study of Bhattacharyya et al.² also found similar observation they reported out of one thousand cirrhosis patients, 883 (88.3%) were males and 117 (11.7%) females with M: F ratio of 7.54:1. Majority (63.6%) belonged to 35-54 years age group. Mean age at presentation was 45.8+ 10.45 years (M: 46.63years and F: 47 years). 13.4% were < 35 years of age. Majority (70.1%) were from rural background versus 29.9% urban. Maskey et al.⁸ observed that one hundred and five (72 males; 33 females) consecutive patients who met the inclusion criteria were studied. The mean age of the patients was 49.06 ±11.27 years (range 23-73 years). Ninety patients were adult cirrhotics (age ≥35 yrs) and the remaining 15 patients were young (age ≤35 yrs). Ninety out of 105 patients were having alcohol related cirrhosis. In this study majority 109(83.8%) patients had abdominal distension, 107(82.3%) had jaundice, 106(81.5%) had ascites, 90(69.2%) had loss of body hair, 77(59.2%) had spider naevi, 47(36.2%) had melena, 45(34.6%) had palmar erythema, 43(33.1%) had fever.

In this study majority 109(83.8%) patients had abdominal distension, 107(82.3%) had jaundice, 106(81.5%) had ascites, 90(69.2%) had loss of body hair, 77(59.2%) had spider naevi, 47(36.2%) had melena, 45(34.6%) had palmar erythema, 43(33.1%) had fever. Similar observation was found in different studies. In study of Bhattacharyya et al.² observed that common symptoms at presentation were leg swelling (80.5%), abdominal swelling (74.3%), Gastro intestinal bleed (43.4%), jaundice (36.3%), low urine output (31%) and altered sensorium (23%). Other non specific manifestations were fatigability (49.1%), anorexia (40%), fever (14%), vomiting (13.4%) and pain abdomen in 22.7% patients. Maskey et al.⁸ the commonest presenting symptoms were abdomen distension (100% in young cirrhotics vs. 84.4% in adult cirrhotics) and jaundice (93.3% in young cirrhotics vs. 84.4% in adult cirrhotics). Vijayan et al.⁵ study reported that majority (29.67%) of the only 6.67% of the patients had abdominal pain alone as symptom. Abdominal pain was the most seen symptom in cirrhosis.

In this study 63(48.5%) patients had Child Pugh C, 50(38.4%) had Child Pugh B and 17(13.1%) had Child Pugh A. Vijayan et al.⁵ study revealed 50% of population were in category C followed by 35% in B and 11% in A. In the prospective study, Factors Associated With Poor Health- Related Quality of Life

of Patients With Cirrhosis by Marchesini et al.⁹ showed 38% patients each in both Pugh class A and Pugh class B; 24% in Pugh class C; whereas our study showed most of the patients belonged to the Child Pugh Class C category. Bhattacharyya et al.² showed similar findings they showed approximately 50% had Child C disease, 40.4% Child B cirrhosis and Child A was seen in only 9.8% patients. In a study by Aziz et al.¹⁰ Child A was seen in 39.5%, Child B in 35.3% patients, and Child C in 25.1% patients. Khan et al.¹¹ too showed that majority were Child A category (83.3%).

In present study 81(62.3%) patients had MED score 10-19, 35(26.9%) had MED score 20-29 and 14(10.8%) had MED score ≥ 30 . The mean MED score was found 19.51 ± 6.73 . Bhattacharyya et al.² study observed that the mean MELD score was 17.80 ± 7.51 . 60% patients had MELD scores between 10-19, 23.1% had MELD between 20-29 and MELD of >30 was seen in 8.8% indicating advanced disease.

CONCLUSION

Majority of subjects were male, middle aged. More common clinical presentation of liver cirrhosis were abdominal distension, jaundice, ascites, loss of body hair, spider naevi, melena, palmar erythema and fever. Child Pugh C and B were most common. Early detection of alcoholic liver diseases and viral hepatitis has survival benefits and their management may reduce the burden of cirrhosis.

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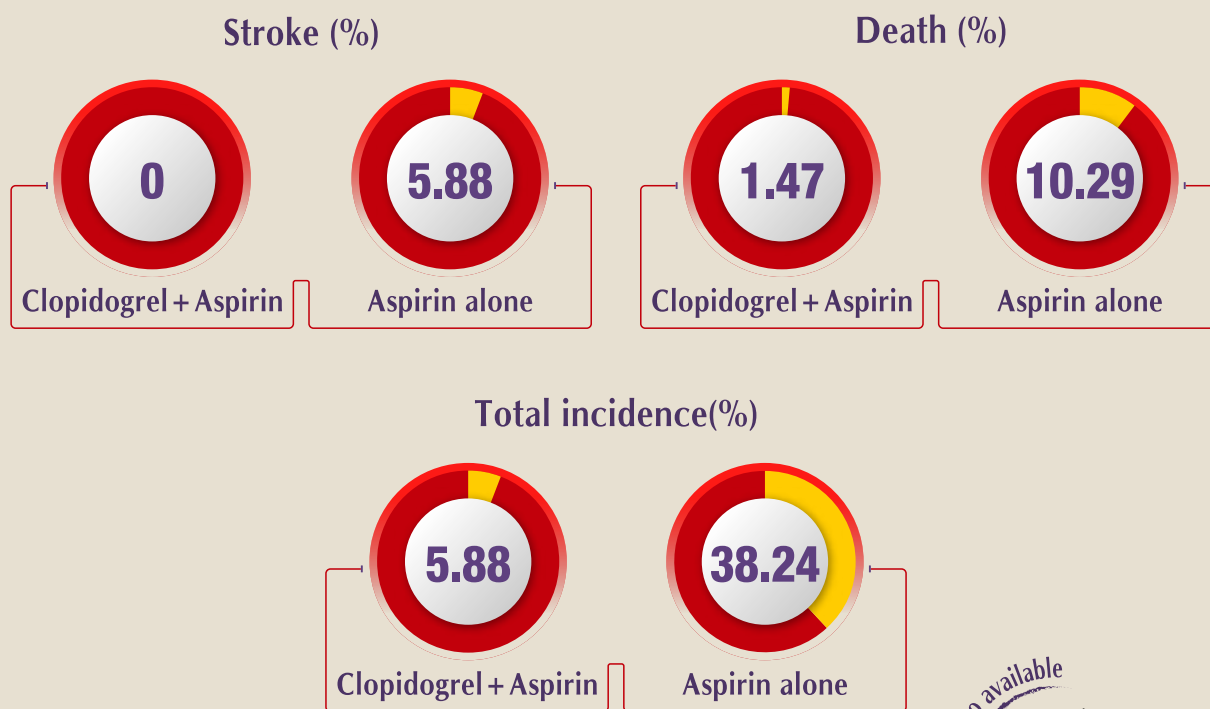
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How A Orthopaedic Surgeon Becomes A Orthopaedic Physician: A Prospective Study Of Last Eighteen Years.

*Dr Abul Kalam Azad¹, Dr. Md.farhan Azad.badhon², Dr.nadia Natasha Ahmed Chowdhury³,
Dr Quazi Abul Azad⁴, Dr Siddika Sultana⁵,*

ABSTRACT

From December 2000 to 2018 close observation & study done throughout the country. Orthopaedic surgeon after having post graduation degrees work at different levels starting from Orthopaedic institute to Upzilla levels. Previously only post graduate institute was NITOR, now it has been extended at medical colleges, B.C.P.S and B.S.M.M.U. Among the home degree holders, degrees are M.S, D. Ortho, F.C.P.S (Ortho). With the increasing age of the Orthopaedic surgeons it is seen the tendency of surgeon becoming to conservative practice and even by medicine physiotherapy only where operation is actually needed. This types of surgeons now become about 20% among all the Orthopaedic surgeons. Even now a few female Orthopaedic surgeon is available in our country.

INTRODUCTION

Orthopaedic is the branch of medicine concerned with disease, injuries and condition of the musculoskeletal system (includes joint, tendon, ligaments and nerves). The term has been originally derived from Greek word Ortho, which means straight, paedia implying children orthopaedic surgery. Experts insist that the accurate name of this medical specialty is actually orthopaedic surgery.

My topic is to design how it is limited to conservative treatment, rehabilitation, prescription of medicine, physiotherapy, sport's medicine treatment, minimally invasive pain management techniques like facet joint injection, epidurals, knee, hip and shoulder joint injection and Nerve root blocks etc. only. Orthopaedic surgery is rapidly growing up throughout the world. Its importance is also rising in Bangladesh due to population explosion and rapid industrialization and increasing number of accidents (RTA & Industrial). Orthopaedic sub specialty is also increasing in our country like hand surgery, spine surgery, knee surgery, hip and knee prosthetic surgery, paediatric ortho surgery, plastic surgery, A/O surgery, pelvic & acetabulum ortho surgery, Ilizarov surgery, prosthesis of shoulder, arthroscopic surgery, laproscopic ortho surgery, orthopaedic oncology and traumatology.

MATERIALS & METHODS

More than eighteen years observation at different level, history from surgeons, personal communication and observation it is seen that the tendency of the orthopaedic surgeons to becoming towards conservative sides, is gradually increasing due to certain reasons. Operation treatment tendency is more common in young surgeons. Total number of orthopaedic surgeon in

Bangladesh is more than 800. Few percentages of surgeons are working outside the country. Some are practicing as general and orthopaedic surgeons. It has been observed that about 60% of the surgeons holding full flagged post with unit in-charge or ward in-charge are practicing as surgeons. Percentage of operation tendency is gradually reducing towards periphery of the country and more reducing towards district level. Percentage of operation at Upzilla level is almost zero. Reasons behind this are as follows:

1. Lack of operation facilities like proper assistant, proper instruments, lack of sterilization facilities, lack of anesthetist and lack of facilities of post operative management.
2. People's tendency towards kabirazi treatment, manda treatment, chatti band and fear of operation.
3. Poor patients, incapable to bear the cost of operation.
4. Surgeon's fear of infection and residual complications.
5. Lack of medical knowledge among the village level peoples.
6. Political pressure, people's misbehaviors at the locality.
7. Lack of safety and security if any accident or deaths occur during operation.
8. Too much busyness of doctors.
9. Surgeon does not want to take over stress due to operation.
10. Minimum operation cost paid by the party.
11. Lack of infrastructure development of orthopaedic organogram at district and Thana levels.
12. Post traumatic convalescence or prolong recovery time makes people to take treatment at Dhaka or at better facilities levels.

MY OBSERVATIONS ARE AS FOLLOWS

1. 60% of the Orthopaedic surgeons continue their operative surgery in their early age to the age of physical fitness.
2. Among this 60%, 60% of the surgeons reduces operative treatment after the age of 60 years, 40% of them continue operation up to the age of 70. Rest becomes orthopaedic physicians automatically.
3. 20% of the surgeons practice as conservative & operation methods simultaneously.
4. Rest 20% of the surgeons practice by conservative treatment only.

Tendency of the orthopaedic surgeons to become orthopaedic physician are more in the village level, district level, old age and duo to lack of service satisfaction, lack of promotion in proper time . But we also see in private medical colleges, autonomous institute like B.S.M.M.U where promotion is a continual process as per B.M.D.C rules. So they get interest in private jobs. No fear of transfer is present. So they work seriously and sincerely which is very important for the doctors and patients.

Table 1. showing % of orthopaedic surgeons working at different levels of the country in relation with age:

Age of the surgeon	Percentage	Practice Method	Total Number of surgeons
30 to 70 years	60%	Conservative + operation	480
Age above 70 Years	20%	Conservative, specially at remote areas	160
Among all ages (after post graduation Degrees	20%	Conservative only at all level of the country	160
Grand total:			800

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CONCLUSION

A surgeon must be lion's heart, eagle's eyes, should be always like a surgeon. But unfortunately a thing that happens in our country due to lack of proper facilities (infrastructure development), proper guidance, prolong period of working at village level having no remuneration gradually become orthopaedic physician. It may due to poverty, frustration, surgeon mentality etc. My recommendation is that there should have orthopaedic physicians and surgeons in a separate entity or increasing facilities for proper and early treatment of the mass accident and trauma patients. All post graduate training & treatment facilities must be upgraded. Especially at medical college levels so that standard or quality post graduate surgeons could be produced. In government service timely promotions and evaluation of the dedicated surgeons should be done with special attention at grass root levels so that all orthopaedic surgeons who are working as non-operative surgeons could become operative orthopaedic surgeons.

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- Urinary tract infections are the most common infections reported in pregnant women which may also cause Pyelonephritis.
- About 80-90% UTIs are caused by *E. Coli*. Recurrent UTIs & Kidney infections can be life threatening for both mother and infant.³

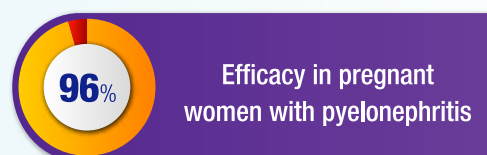
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How fasting can improve overall health Protects against aging-associated diseases

Date:

January 15, 2019

Source:

University of California - Irvine

Summary:

Researchers found evidence that fasting affects circadian clocks in the liver and skeletal muscle, causing them to rewire their metabolism, which can ultimately lead to improved health and protection against aging-associated diseases.



Fasting affects circadian clocks in the liver and skeletal muscle.
Credit: © anaumenko / Fotolia

In a University of California, Irvine-led study, researchers found evidence that fasting affects circadian clocks in the liver and skeletal muscle, causing them to rewire their metabolism, which can ultimately lead to improved health and protection against aging-associated diseases. The study was published recently in *Cell Reports*.

The circadian clock operates within the body and its organs as intrinsic time-keeping machinery to preserve homeostasis in response to the changing environment. And, while food is known to influence clocks in peripheral tissues, it was unclear, until now, how the lack of food influences clock function and ultimately affects the body.

"We discovered fasting influences the circadian clock and fasting-driven cellular responses, which together work to achieve fasting-specific temporal gene regulation," said lead author Paolo Sassone-Corsi, Donald Bren Professor of Biological Chemistry at UCI's School of Medicine. "Skeletal muscle, for example, appears to be twice as responsive to fasting as the liver."

The research was conducted using mice, which were subjected to 24-hour periods of fasting. While fasting, researchers noted

the mice exhibited a reduction in oxygen consumption (VO₂), respiratory exchange ratio (RER), and energy expenditure, all of which were completely abolished by refeeding, which parallels results observed in humans.

"The reorganization of gene regulation by fasting could prime the genome to a more permissive state to anticipate upcoming food intake and thereby drive a new rhythmic cycle of gene expression. In other words, fasting is able to essentially reprogram a variety of cellular responses. Therefore, optimal fasting in a timed manner would be strategic to positively affect cellular functions and ultimately benefiting health and protecting against aging-associated diseases."

This study opens new avenues of investigation that could ultimately lead to the development of nutritional strategies to improve health in humans.

Sassone-Corsi first showed the circadian rhythm-metabolism link some 10 years ago, identifying the metabolic pathways through which circadian proteins sense energy levels in cells.

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Materials provided by University of California - Irvine.

Note: Content may be edited for style and length.

<https://www.sciencedaily.com/releases/2019/01/190115111928.htm>

Prostate cancer ultrasound treatment as effective as surgery or radiotherapy

Using high energy ultrasound beams to destroy prostate cancer tumours may be as effective as surgery or radiotherapy, but with fewer side effects.

A new study, carried out at six hospitals across the UK, tracked 625 men with prostate cancer who received a type of treatment called high-intensity focused ultrasound (HIFU).

The research, published in the journal *European Urology*, is the largest ever study of HIFU treatment used to target prostate tumours. The treatment is similar to a 'lumpectomy' for other cancers -- where doctors remove only tumour cells, leaving as much healthy tissue as possible.

The findings, from a number of institutions including Imperial College London and University College London, found that after five years the cancer survival rate from HIFU was 100 per cent. Approximately, 1 in 10 men needed further treatment. The cancer survival rate from surgery and radiotherapy is also 100 per cent at five years.

The research also showed the risk of side effects of HIFU, such as urinary incontinence and erectile dysfunction, were lower than other treatment options, at 2 per cent and 15 per cent respectively. The study was funded by the Medical Research Council and SonaCare Inc., who manufacture the ultrasound equipment used in the procedure.

Professor Hashim Ahmed, lead author from the department of Surgery and Cancer at Imperial, said: "Although prostate cancer survival rates are now very good, the side effects of surgery or radiotherapy can be life-changing. Some patients are left requiring multiple incontinence pads every day, or with severe erectile dysfunction."

He added: "We need to now focus on improving the quality of life for these men following treatment. This latest trial of focal HIFU -- which is the largest and longest study of the treatment to date -- suggests we may be able to tackle the cancer with fewer side effects."

Prostate cancer is the most common cancer in men in the UK, with around 47,000 cases every year.

Treatments include surgery to remove the gland, or radiotherapy, which uses radiation to the entire prostate. However, these treatments can cause collateral damage to surrounding sensitive tissues like nerves, muscles, urine passage, bladder and rectum. The prostate is roughly the size of a walnut and sits between the bladder and the penis.

Surgery and radiotherapy to the entire prostate are effective treatments but can lead to long term risk of urinary problems, like incontinence, of between 5-30 per cent. They also carry a risk of erectile dysfunction of between 30-60 per cent. Radiotherapy can also cause rectal problems like bleeding, diarrhea and discomfort in 5 per cent of patients.

HIFU is a newer treatment, performed under general anaesthetic,

which delivers beams of high energy ultrasound directly into the prostate gland, via a probe inserted up the back passage. This allows a surgeon to precisely target tumour cells within the gland to millimetre accuracy, with less risk of damage to surrounding tissues. There are no needles or cuts to skin.

In the new HIFU study, conducted on men with an average age of 65 and whose cancer hadn't spread, the risk of urine incontinence (defined as requiring pad use) at five years after the treatment was 2 per cent, and the risk of erectile dysfunction 15 per cent. The team say the results include patients with medium to high risk cancer.

The scientists also tracked the number of patients who needed further treatment following HIFU, (such as surgery or radiotherapy), to treat any cancer cells that had returned. They found 10 per cent of patients needed further treatment by five years, which is comparable to number of patients needing further treatment after surgery or radiotherapy (5-15 per cent).

The team add that prostate cancer patients should talk through all possible treatments with their healthcare team, so they can consider their options fully.

Further follow-up trials are needed to track progress of the patients after ten years, as well as trials that directly compare HIFU with surgery and radiotherapy.

Anthony Murland underwent HIFU treatment in November last year to treat his prostate cancer. "I first heard of the treatment from a friend, who had the procedure a few months before. My GP hadn't heard of HIFU, but was very interested, so I ended up educating him about it. He then referred me for the treatment on the NHS," explained the 67-year-old from Suffolk.

"I liked the sound of the treatment as it seemed the least invasive option, with low risk. The treatment was over in a day -- I went in first thing in the morning and was out by the evening. I didn't have any pain, but needed a catheter for five days, which was a bit uncomfortable. "I'm closely monitored by my GP, and so far the cancer has not returned."

The work was funded by the Medical Research Council and SonaCare Inc.

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Excessive weight gain in early childhood affects teenage heart health

Excessive weight gain in children under two years can lead to cardiovascular and metabolic risk factors in teenage years including increased cholesterol, being overweight and having fat around the middle, finds new research from the University of Sydney.

Obesity and cardiovascular risk factors in childhood and adolescence are associated with increased risk of cardiovascular disease in adulthood, the leading cause of death in Australia. Published today in *The Journal of Paediatrics*, the study tracked the Body Mass Index (BMI) of children from birth to 14 years and found that earlier onset of high BMI (in children under two years) resulted in higher cholesterol levels, higher blood pressure, and more central (unhealthy) fat in adolescence, compared with onset of high BMI in children aged three to five.

Teenage obesity is a major health problem in Australia, but the pathways to and the consequences of obesity in teenagers has not been well studied. This is the first study to look at the consequences of weight gain at two different stages of early childhood and its impact on developing cardiovascular disease as an adult.

"Our study found that there are two main pathways to obesity as a teenager -- rapid weight gain in the first two years of life (early weight gain) or rapid weight gain between ages two and five years of age (later weight gain)," said senior author University of Sydney's Professor David Celermajer, Scandrett Professor of Cardiology at Sydney Medical School and the Heart Research Institute.

"The data shows that there are consequences of the timing of the onset of excess BMI in early childhood.

"Earlier onset of a rising BMI that persisted through childhood results in greater central fat and higher cholesterol in teenagers, independent of their BMI at 14 years."

Study details

A group of 410 Australian children were assessed from birth throughout childhood to age 14 years, recording their weight, height, and waist circumference. Of the 410 children, 190 had detailed measurements of cholesterol, blood pressure and central weight recorded at age 14 years.

Three groups were identified in the study: normal BMI, "Early Rising" excess BMI from two years, and "Late Rising" excess BMI from five years.

Lead author Dr Jennifer Barraclough, cardiologist and PhD student at University of Sydney and the Heart Research Institute said: "The early weight gain group have more centrally placed or unhealthy fat than the later weight gain group. Fat

around the middle is a key risk factor for cardiovascular disease in adulthood.

"The early weight gain group also had significantly higher cholesterol levels compared to a group of healthy weight teenagers.

"Our study shows that the earlier the onset of excess fat before five years of age, the more likely the individual is to have fat around the middle by adolescence.

"The study also found that both early and late weight gain groups were more likely to have mothers with overweight or obesity and a high BMI, than healthy weight teenagers."

Co-author Professor Louise Baur, Head of Child & Adolescent Health at the University's Sydney Medical School and The Children's Hospital at Westmead said: "This study has shown that it is important for families and the community to understand the risks of excess weight gain in early life and to ensure healthy eating and activity are supported from a very young age.

"These findings may provide an opportunity to identify "high risk" young children and trial interventions at an early age, prior to the development of high cholesterol and centrally placed fat which becomes evident in adolescence and increases the risk of heart disease as an adult."

Professor Baur highlighted the importance of healthy infant feeding.

"Breastfeeding should be supported where possible until at least 12 months, with solids introduced from around 6 months.

"Healthy eating and physical activity for all family members is also an important factor promoting healthy weight gain in the young child. Family doctors and early childhood nurses can also help to monitor weight gain in this critical period of life," she said.

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Diabetes linked to back pain

People with diabetes have a 35 percent higher risk of experiencing low back pain and 24 percent higher risk of having neck pain than those without diabetes, a review by University of Sydney researchers has found.

Their findings, based on meta-analyses of studies that assess the links between diabetes and back or neck pain outcomes, were published today in PLOS ONE.

Most adults experience low back pain during their lives and almost half suffer neck pain at some stage. Diabetes is an increasingly prevalent chronic condition; an estimated 382 million people live with type 2 diabetes, the most common form of this metabolic disease.

There was insufficient evidence in the review to establish a causal relationship between diabetes and back or neck pain, the paper's senior author Associate Professor Manuela Ferreira from the University's Institute of Bone and Joint Research said. But the findings warrant further investigation of the association.

"Diabetes and low back pain and neck pain seem to be somehow connected. We can't say how but these findings suggest further research into the link is warranted," Associate Professor Ferreira said.

"Type 2 diabetes and low back pain both have a strong relationship with obesity and lack of physical activity, so a logical progression of this research might be to examine these factors in more detail. Our analysis adds to the evidence that weight control and physical activity play fundamental roles in health maintenance."

The paper also found diabetes medication could influence pain, possibly via its effect on blood glucose levels, and this connection should also be investigated. It also recommended health care professionals should consider screening for unknown diabetes in patients seeking care for neck pain or low back pain.

"Neck and back pain, and diabetes, are afflicting more and more people," said co-author and collaborator Associate Professor Paulo Ferreira from the Faculty of Health Sciences.

"It's worth committing more resources to investigate their interrelationship. It may be that altering treatment interventions for diabetes could reduce the incidence of back pain, and vice versa."

Journal Reference:

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<https://www.sciencedaily.com/releases/2019/02/190221142302.htm>

Bacteria play critical role in driving colon cancers

Patients with an inherited form of colon cancer harbor two bacterial species that collaborate to encourage development of the disease, and the same species have been found in people who develop a sporadic form of colon cancer, a study led by a Johns Hopkins Bloomberg-Kimmel Institute for Cancer Immunotherapy research team finds. A second study in mice published concurrently by the same researchers shows a possible mechanism behind how one of these species spurs a specific type of immune response, promoting -- instead of inhibiting -- the formation of malignant tumors. Together, these findings could lead to new ways to more effectively screen for and ultimately prevent colon cancer, a disease that kills more than 50,000 people each year in the U.S. and is on the rise among younger adults age 20 to 50.

The complementary findings were published online Feb. 1 in *Cell Host & Microbe* and in the Feb. 2 issue of *Science*.

The *Science* findings describe a process in which these bacteria invade the protective mucus layer of the colon and collude to create a microenvironment -- complete with nutrients and everything the bacteria need to survive -- that induces chronic inflammation and subsequent DNA damage that supports tumor formation. These findings suggest a change in the standard of care for people who carry both types of bacteria. "More frequent colon cancer screening than the currently recommended once every 10 years should be considered," says Drew Pardoll, M.D., Ph.D., director of the Bloomberg-Kimmel Institute for Cancer Immunotherapy. Ultimately, once better understood, administering drugs or vaccines to prevent colonization of the bacteria in the colon, and potentially even probiotics to chase the bugs from the colon, are preventive measures that could be explored to interrupt the cancer-promoting process.

These new findings by Cynthia Sears, M.D., professor of medicine, and a researcher at the Johns Hopkins Kimmel Cancer Center's Bloomberg-Kimmel Institute, are built upon her earlier research showing that particular strains of bacteria can invade the colon mucus in at least half of patients who get colon cancer but who have no inherited predisposition for the disease. Unlike most bacteria, which do not make it past the colon's protective mucus layer, these communities of bacteria that invade the mucus form a sticky biofilm right next to the colon epithelial cells that line the colon, where colon cancer usually originates. There, Sears and colleagues propose, these bacterial communities may eventually help the epithelial cells to become cancerous.

About 5 percent of colon cancers are caused by a hereditary syndrome called familial adenomatous polyposis (FAP), in which an inherited mutation launches a series of genetic changes that develop over time and eventually prompt the epithelial cells to turn malignant. However, Sears says, it was unclear whether ETBF or other bacteria played a role in the progression to colon cancer in FAP patients.

To investigate the relationship between the bacteria-caused biofilms and cancer formation, she and her colleagues examined colon tissue removed from six FAP patients. Tests showed patchy sections of biofilms distributed along the colon's length in about 70 percent of the patients. The researchers used gene probes to identify the particular bacterial species and found that the biofilms consisted mainly of two types, *Bacteroides fragilis* and *Escherichia coli*, a surprising finding since the colon contains at least 500 different types of bacteria. Tests on 25 additional colon samples from FAP patients showed that the *B. fragilis* strain was a subtype, called ETBF, which makes a toxin that triggers certain oncogenic, or cancer-promoting, pathways in colon epithelial cells and causes colon inflammation. The *E. coli* strain produced a substance called colibactin (synthesized by a set of genes in the bacterial genome called the PKS island), which causes DNA mutations. "It is the combination of these effects, requiring coexistence of these two bacteria, that creates the 'perfect storm' to drive colon cancer development," says Sears. Both types of bacterium are found to commonly colonize young children worldwide, potentially contributing to the rise in colon cancer rates among younger people.

"FAP is a devastating disease that ultimately results in surgical removal of the colon, and our findings could point us to new and less invasive ways to prevent colon cancer from developing," says Sears. She says these same approaches could be applied to the more common sporadic types of colon cancer, which occur without a familial predisposition. Currently, colonoscopy to monitor for the formation of precancerous tumors, called polyps, is the standard of care. If further research shows that biofilms develop before polyps appear, Sears says, adding biofilm evaluation or stool identification of particular bacteria to care could also provide an opportunity for earlier, nonsurgical intervention that could bump the bacteria from the colon.

Using a mouse model of colon cancer, the researchers found that animals whose colons were colonized with just one of these species developed few or no tumors. However, when their colons were colonized with both species simultaneously, they developed many tumors, suggesting a synergy between

the two types of bacteria.

An earlier, 2009 study, published by the Sears laboratory in *Nature Medicine*, suggested a unique type of immune response -- producing an inflammatory protein called IL-17 -- was key to ETBF-induced tumor formation. Pardoll and Sears say it is important to note that this type of immune response is distinct from, and in fact antagonistic to, the types of antitumor immune responses induced by therapeutic immunotherapy drugs.

In order to prove the importance of IL-17 in the cancer-promoting effects of the bacterial combination, they used a mouse model in which the IL-17 gene was genetically deleted so it could not make IL-17, and colonized the mice with both ETBF and PKS+E. coli. Unlike animals that readily made IL-17, the genetically altered mice didn't form colon tumors, confirming the importance of this protein in bacterial-driven colon cancer. However, in addition to IL-17, the studies showed that ETBF digested the mucus layer, enabling the PKS+ E. coli to adhere in larger numbers to the colon mucosa where together the bacteria induced increased DNA damage, a step preceding the gene mutations that underlie colon tumor formation.

The complementary findings in *Cell Host & Microbe* demonstrate how ETBF's toxin prompts colon cancer to develop. Using a different mouse model of colon cancer, the researchers colonized the animals' colons with ETBF and then performed a series of tests to monitor the resulting cellular and molecular changes.

Their results revealed that ETBF's toxin spurs a cascade of events that promote colon inflammation that feeds back to act on the colon epithelial cells. First, the toxin triggers colon immune cells to produce IL-17. This inflammatory molecule then acts directly on the colon epithelial cells to trigger activation of a protein complex involved in promoting further inflammation, known as NFkappaB. NFkappaB in turn induces the colon epithelial cells to produce several signaling molecules that recruit more immune cells, called myeloid cells, to the colon. These immune cells are involved in the inflammatory response and are known to support tumor growth. This process culminates in tumors forming in the colon. Additional experiments showed that a protein known as STAT3, which was previously shown to play a role in regulating cancer and inflammatory genes, is also necessary for tumor formation.

Together, Sears says, the two new studies suggest a variety of strategies that researchers could test to prevent or even combat colon cancer. For example, it may be possible to prevent this disease by keeping the colon from becoming colonized by these two problematic bacteria, or by devising drugs or vaccines that target their toxins. Researchers might eventually be able to halt the malignant cascade by targeting one or several of the different molecular players that increase inflammation

in the colon. The researchers are also working to better understand why the immune system permits the ongoing inflammation.

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Scientists demonstrate key role of salt in allergic immune reactions

Salt apparently affects allergic immune reactions. A team working with Prof. Christina Zielinski at the Technical University of Munich (TUM) has demonstrated in cell cultures that salt leads to the formation of Th2 cells. These immune cells are active in allergic conditions such as atopic dermatitis. The team also detected elevated salt concentrations in the skin of patients.

In industrial countries, nearly one in three people are affected by allergies at some point in their lives. One in ten children suffer from atopic dermatitis. T-cells play an important role in immune conditions of this kind. They are a vital aspect of the body's resistance to infections, but, if uncontrolled, can also develop pathological responses and start attacking parts of our bodies or innocuous substances such as allergens.

When such functions occur, Th2 cells, a subgroup of T cells, can cause inflammatory skin conditions such as atopic dermatitis. This involves increased production of the proteins interleukin 4 (IL-4) and interleukin 13 (IL-13). It is still unknown what triggers the signalling malfunction.

More Th2 cells under the influence of sodium ions

Table salt, known scientifically as sodium chloride, is essential to the health of humans and animals. In the body it occurs in the form of sodium and chlorine ions. In a recent study, Christina Zielinski, a DZIF-professor at TUM's Institute of Virology, and her team were able to demonstrate that sodium chloride can induce a state in human T cells that causes them to produce increased amounts of the proteins IL-4 and IL-13.

Types of T-cells, which should not cause allergies, can, in the presence of salt, turn into Th2 cells. The changes are reversed when the T cell is again exposed to lower salt levels. "Consequently, ionic signals do play a role in the generation and control of Th2 cells," says Christina Zielinski.

Highly elevated salt levels in the skin of patients suffering from atopic dermatitis

As a medical specialist in the field of dermatology, Zielinski is naturally interested in atopic dermatitis. Her team investigated whether the affected skin regions of atopic dermatitis patients exhibit elevated sodium levels. "Measuring sodium concentrations in the tissue is complicated," explains the first author of the study, Julia Matthias. "Dissolved salt in blood can be measured using standard clinical methods. But for the skin, we needed the help of colleagues in nuclear chemistry and physics." They tested the skin samples at the Research Neutron Source Heinz Maier-Leibnitz (FRM II) at TUM and at the Institute for Nuclear Chemistry at the University of Mainz by means of neutron activation analysis. The sodium levels in the affected skin areas of patients suffering from atopic dermatitis proved to be up to 30 times higher than in healthy skin.

Ideal conditions for bacteria thriving under salty conditions Related Stories

- One in 13 children affected by PTSD, according to landmark study
 - Autistic children with co-occurring ADHD have greater adaptive behavior impairments
 - Scientists shed light on damaging cell effects linked to aging
- "The higher sodium levels in the affected skin neatly match another characteristic of atopic dermatitis," says Christina Zielinski. "It has been known for some time that patients with this condition have elevated levels of the bacterium *Staphylococcus aureus* on their skin. These are bacteria, which thrive under salty conditions - in contrast to other commensal bacteria, which are in fact harmed by salt." Zielinski believes that this insight along with others and the current research results point to a link between salt and the occurrence of atopic dermatitis.
- "However, we have not yet been able to show how these large quantities of salt find their way to the skin," she concedes. "For that reason, we are also unsure of how a low-salt or high-salt diet might be related to the appearance and progression of atopic dermatitis or other allergic conditions." Professor Zielinski and her team hope to answer these and other questions in future interdisciplinary studies.

<https://www.tum.de/nc/en/about-tum/news/press-releases/detail/article/35257/>

<https://www.news-medical.net/news/20190221/Scientists-demonstrate-key-role-of-salt-in-allergic-immune-reactions.aspx>

Following heart health guidelines also reduces diabetes risk

Date:

January 16, 2019

Source:

The Ohio State University Wexner Medical Center

Summary:

You've probably heard that things like staying active, eating healthy and keeping your blood pressure in check can help your heart, and a new study finds that following a set of seven lifestyle factors can also drastically reduce your risk of developing diabetes.



Lifestyle and health factors that are good for your heart can also prevent diabetes, according to a new study by researchers at The Ohio State University College of Medicine that published today in *Diabetologia*, the journal of the European Association for the Study of Diabetes.

Diabetes is a growing problem in the United States, with nearly a third of the population living with diabetes or prediabetes, according to the Centers for Disease Control. Dr. Joshua J. Joseph, an endocrinologist and assistant professor at The Ohio State University Wexner Medical Center, wants to bring those numbers down. He studies various ways to prevent diabetes. His latest work looked at how cardiovascular health can impact diabetes risk.

"This research adds to our collective understanding about how physicians can help their patients prevent a number of serious diseases, including heart disease, cancer and now diabetes," said Dr. K. Craig Kent, dean of the College of Medicine.

The team at Ohio State Wexner Medical Center, led by Joseph, assessed diabetes among 7,758 participants in the REasons for Geographic and Racial Differences in Stroke (REGARDS) Study and used the American Heart Association's Life's Simple 7 as a guide for measuring heart health among the group.

The Life's Simple 7 health factors and lifestyle behaviors that are associated with cardiovascular health are physical activity, diet, weight, cholesterol, blood pressure, blood glucose and tobacco use.

Overall, the study participants who were in the recommended, ideal ranges for at least four of the seven factors had a 70 percent lower risk of developing diabetes over the next 10 years.

"What's interesting is when we compared people who had normal blood glucose and those who already had impaired blood glucose," Joseph said. "Those in normal levels who attained four or more guideline factors had an 80 percent lower risk of developing diabetes. Those who were already diabetic or prediabetic and met four of the factors had no change in lowering their risk for diabetes."

Joseph said this research proves using prevention strategies from the very beginning is key to helping Americans avoid diabetes.

"Healthy people need to work to stay healthy. Follow the guidelines. Don't proceed to high blood sugar and then worry about stopping diabetes. By that point, people need high-intensity interventions that focus on physical activity and diet to promote weight loss and, possibly, medications to lower the risk of diabetes," Joseph said.

Community outreach is one way Joseph and his team put their research to practical use. They attend wellness walks, community days and other gatherings around central Ohio to help educate people about diabetes prevention and starting healthy habits.

"We don't wait for people to come to us as patients. We're very engaged in taking our work from the lab and applying it to our populations so we can help keep our communities healthy," Joseph said.

The National Institute of Neurological Disorders and Stroke, the Centers for Disease Control and Prevention and the National Institute of Diabetes and Digestive and Kidney Diseases supported this research.

Materials provided by The Ohio State University Wexner Medical Center

How a common oral bacteria makes colon cancer more deadly

Researchers at the Columbia University College of Dental Medicine have determined how *F. nucleatum*-- a common oral bacteria often implicated in tooth decay -- accelerates the growth of colon cancer. The study was published online in the journal EMBO Reports.

Why it matters

The findings could make it easier to identify and treat more aggressive colon cancers. It also helps explain why some cases advance far more quickly than others, thanks to the same bacteria found in dental plaque.

Background

Colon cancer is the second leading cause of cancer death in the U.S. Researchers have long known that the disease is caused by genetic mutations that typically accumulate over the course of a decade. "Mutations are just part of the story," says study leader Yiping W. Han, PhD, professor of microbial sciences at Columbia University's College of Dental Medicine and Vagelos College of Physicians & Surgeons. "Other factors, including microbes, can also play a role."

Scientists have also demonstrated that about a third of colorectal cancers are associated with a common oral bacterium called *F. nucleatum*. Those cases are often the most aggressive, but nobody knew why. In a prior study, Han's research team discovered that the bacterium makes a molecule called FadA adhesin, triggering a signaling pathway in colon cells that has been implicated in several cancers. They also found that FadA adhesin only stimulates the growth of cancerous cells, not healthy cells. "We needed to find out why *F. nucleatum* only seemed to interact with the cancerous cells," says Han.

What the study found

In the current study, the researchers found in cell cultures that noncancerous colon cells lack a protein, called Annexin A1, which stimulates cancer growth. They then confirmed both in vitro and later in mice that disabling Annexin A1 prevented *F. nucleatum* from binding to the cancer cells, slowing their growth.

The researchers also discovered that *F. nucleatum* increases production of Annexin A1, attracting more of the bacteria. "We identified a positive feedback loop that worsens the cancer's progression," says Han. "We propose a two-hit model, where genetic mutations are the first hit. *F. nucleatum* serves as the second hit, accelerating the cancer signaling pathway and speeding tumor growth."

Clinical implications

The researchers then looked at an RNA-sequencing dataset, available through the National Center for Biotechnology Information of 466 patients with primary colon cancer. Patients with increased Annexin A1 expression had a worse prognosis, regardless of the cancer grade and stage, age, or sex.

Next steps

The researchers are currently looking for ways to develop Annexin A1 as a biomarker for more aggressive cancers and as a potential target for developing new treatments for colon and other types of cancer.

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OGSB International Scientific Conference and AGM-2019

27th International Scientific Conference & 45th AGM of Obstetrical & Gynecological Society of Bangladesh (OGSB) held in Bangabandhu International Conference Centre (BICC) on from 1st and 2nd February 2019. Orion Pharma Ltd. proudly attended the conference along with a lucrative stall. About 500 Gynecologists have been visited our Orion Pharma Stall and highly appreciated for participating in such event.



PITHA UTSHOB-2019

Dhaka National Medical College, Dhaka

On 14th February, 2019 (Valentine's Day) Orion Pharma Ltd. was successfully arranged A Pitha Utshob in Dhaka National Medical College premises. **Prof. Dr. Aminul Haque**, Acting Principal, DNMC was the Chairperson of the program. About 300 Doctors attended the session & enjoyed delicious traditional foods. The program Organized by Teachers Welfare Association, DNMC & Sponsored by Orion Pharma Ltd.



SCIENTIFIC SEMINAR

Bangabandhu Sheikh Mujib Medical University, Dhaka

A Scientific Seminar has been organized by BSMMU, Department of Cardiology, Unit: White on 29th January, 2019. It was very much updated discussion on **ANTIPLATELET THERAPY** in the presence of program chairperson **Prof. Dr. Chowdhury Meshkat Ahmed**, Chief, Unit: White, Dept. of Cardiology, BSMMU. Dr. Imrul Kayes, D-Card, BSMMU was the keynote presenter of the Scientific Session. All Doctors attended the session & enjoyed exclusive buffet lunch. Orion Pharma Ltd. proudly coordinated the programme as Scientific Partner.



Sir Salimullah Medical College, Dhaka

On 19th February, 2019 A Scientific Seminar was arranged by the Dept. of Obs & Gynae (Unit-VI), Sir Salimullah Medical College on **WOUND INFECTION & ANTIBIOTICS RESISTANCE**. Dr. Mahmuda Eva (DGO) and Dr. Farhana Tasneem (HMO) were the key note speakers of the session. **Asso. Prof. Dr. Nilofer Nasreen Ava**, Chief, Unit-VI, Dept. of Obs & Gynae, SSMC enlightened the seminar as the chairperson. OPL was the scientific partner of this great event.

ROUND TABLE MEETING

National Institute of Cardiovascular Diseases, Dhaka

On 22th January, 2019 A RTM has been organized by NICVD, Dhaka. **Asso. Prof. Dr. Kajol Kumar Karmokar**, Interventional Cardiologist, Chief (Unit-8), NICVD was the chairperson of the program. About 35 consultants attended the session & enjoyed delicious lunch sponsored by OPL.



Khulna Medical College & Hospital, Khulna

A RTM was arranged on 17th January, 2019 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.

Sadar Hospital, Moulvibazar

On 17th February, 2019 RTM has been organized by Sadar Hospital, Moulvibazar with the topic of **BAD EFFECTS OF IMPURITIES IN PRESENT PHARMACEUTICALS API**. More than 65 Doctors attended the session followed by exclusive lunch. OPL was the scientific partner of this great event.



Thana Health Complex, Bahubol

A RTM was arranged on 17th February, 2019 by THC, Bahubol. **Dr. Babul Kumar Das**, UH & FPO, THC, Bahubol was the Chairperson & keynote speaker of the program. About 40 senior Doctors attended the session followed by delicious lunch sponsored by OPL.



Thana Health Complex, Sirajdikhan

A RTM was arranged on 27th January, 2019 by THC, Sirajdikhan. **Dr. Dulal Hossain**, UH & FPO, THC, Sirajdikhan was the Chairperson & keynote speaker of the program. About 35 senior Doctors attended the session followed by delicious lunch sponsored by OPL.

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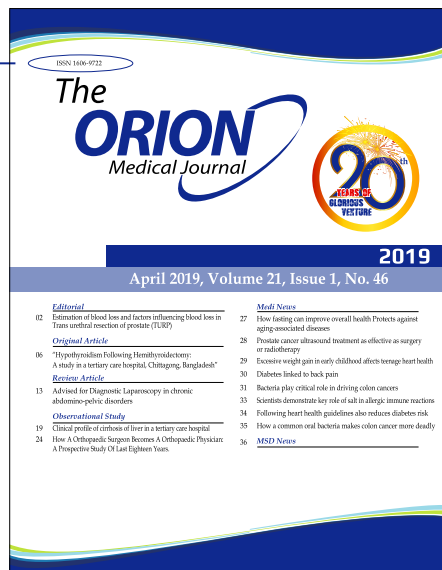
ISSN: E.G.ISSN: 3424-4532

Note: Some ISSN's are ended with an "X", (E.g. ISSN: 2090-424X). The "X" is eight digit of ISSN and that is a part of ISSN.

VALIDATE ISSN

Checking Result

THE ISSN: 1606 - 9722 IS VALID



Olmesafe-20

Olmesartan Medoxomil 20 mg

Olmesartan significantly reduces proteinuria compared to Losartan, Valsartan & Candesartan

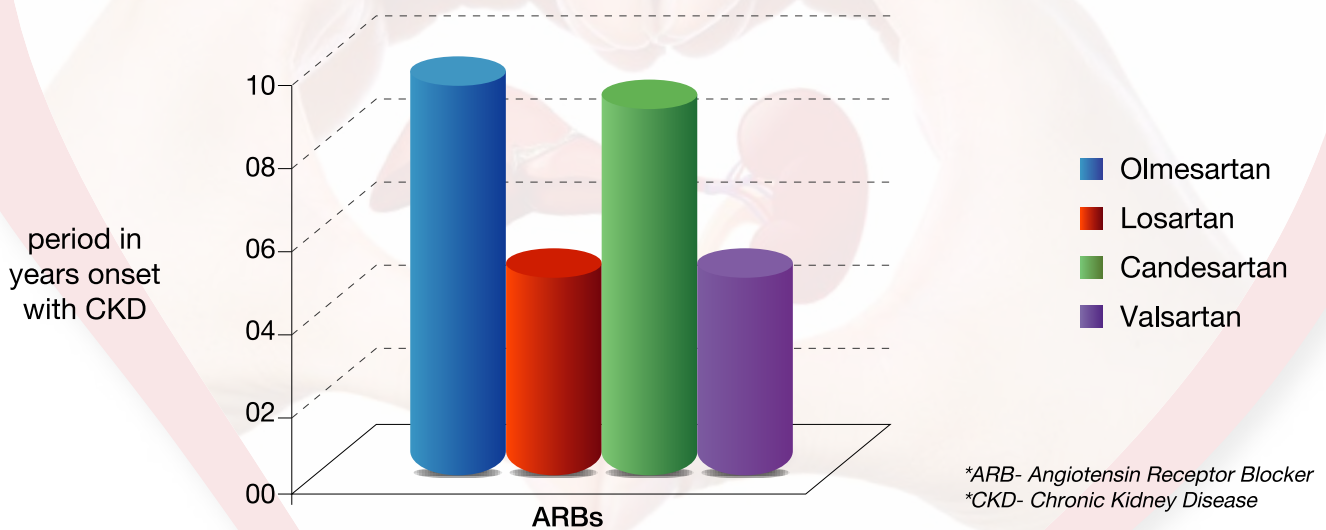


Fig.: Difference between Olmesartan and other ARB's onset and diagnosed with CKD

Olmesafe (Olmesartan)-a safe sartan for renal & hepatic patient

Also available

Olmesafe AM^{5/20}

Amlodipine 5 mg
Olmesartan Medoxomil 20 mg

For Uncontrolled Hypertension

Olmesafe HT^{20/12.5}

Olmesartan Medoxomil 20 mg
Hydrochlorothiazide 12.5 mg

For Systolic Hypertension

... No chance of Drug-Drug Interaction with Rosuvastatin (Rovex)

Due to same metabolic pathway (CYP 3A4), Atorvastatin may hamper the activity of Clopidogrel, Amlodipine, Clonazepam, Bisoprolol, Esomeprazole etc. when used concomitantly. But Rosuvastatin follows a different metabolic pathway (CYP 2C9) which leads to greater activity of those drugs.



More Potent & Safe **3G** Statin

Clopidogrel shows higher activity with Rosuvastatin

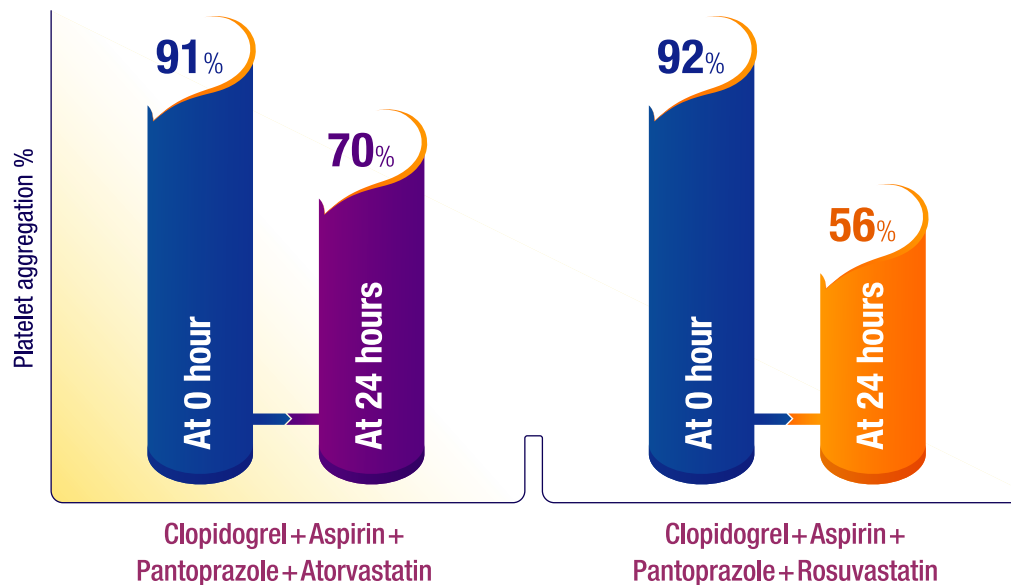


Fig: Platelet aggregation with Clopidogrel in different combinations at 0 hour & at 24 hours

Ref.: IJC Metabolic & Endocrine 13 (2016) 35-40



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