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INFORMATION FOR AUTHORS AND GUIDELINES FOR SUBMISSION OF ARTICLE

The editorial committee of the journal agrees to accept manuscript prepared in accordance with the "Uniform Requirements Submitted to the Biomedical Journals" published in the N Engl J Med 1991; 324: 424-8.

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Example of Title Page

The title of the article :

Relationship of plasma progesterone level with FVC, FEV1, FEV1/FVC% during different phases of Menstrual Cycle

A. Author's name and institutional affiliations:

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B. The name of the department (s) and institution (s) to which the work should be attributed:
Department of Physiology Bangabandhu Sheikh Mujib Medical University (BSMMU). Bangladesh.

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D. Corresponding author:

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Corresponding author.....

As principal investigator Dr.....
had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design.....

Acquisition of data.....

Drafting of the manuscript.....

Critical revision of the manuscript of important intellectual content.....

Statistical analysis.....

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Editorial

Hepatitis G

Hepatitis G is a newly discovered form of liver inflammation caused by hepatitis G virus (HGV) , a distant relative of hepatitis C virus. HGV is a single stranded RNA virus transmitted by the parenteral route i.e. by the contaminated blood & blood products and possibly by the sexual route. In upto 75% of infections, HGV is cleared from the plasma and the infection becomes chronic in the remaining 25%. The site of HGV replication is mononuclear cells, So it does not cause any rise in serum aminotransferases and is nonpathogenic. It coinfects patients with HIV & the dual infection is protective against HIV disease.

HGV, virus, also called hepatitis GB virus, was first described early in 1996. Little is known about the frequency of HGB infection, the nature of illness, or how to prevent it. HGV has been identified in between 1-2% of blood dodors in the United States. Also at risk are patients with kidney disease who have blood exchanged by haemodialysis and those who inject drugs into their veins. It is possible that an infected mother can pass on the virus to her newborn infant. Often patients with hepatitis G are infected at the same time by the hepatitis B or C virus, or both. In about three of every thousand patients with acute viral hepatitis, HGV is the only virus present. There is some indication that patients with hepatitis G may continue to carry the virus in their blood for many years, & so might be a source of infection in others.

Some researchers believe that there may be a group of GB viruses, rather than just one. Others remain doubtful that HGV actually causes illness. If it does, the type of acute or chronic illness that results is not clear. When diagnosed, acute HGV infection has usually been mild & brief. There is no evidence of serious complication, but it is possible that, like other hepatitis viruses, HGV can cause severe liver damage resulting in liver failure. The virus has been identified in as many as 20% of patients with long lasting viral hepatitis, some of whom also have hepatitis C.

The only method of detecting HGV is a complex and costly DNA test that is not widely available. There is no specific treatment for any form of acute hepatitis. Patients should rest in bed as needed, avoid alcohol and be sure to eat a balanced diet.

What little is known about the course of hepatitis G suggests that illness is mild and does not last long. When more patients have been followed up after the acute phase, it will become clear whether HGV can cause severe liver damage.

Since hepatitis G is a blood born infection, prevention relies on avoiding any possible contact with contaminated blood. Drug users should not share needles, syringes or other equipment.

Prof. Dr. Samarendra Chandra Datta
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Prevalence of depression, anxiety and stress among doctors in their workplace: A Cross-sectional Study.

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SUMMARY ON ABSTRACT :

Medical profession is highly challenging and often places heavy demands on the mental health of the doctors. So assessment of the symptoms of depression, anxiety, and stress among doctors are essential to take necessary steps to treat or prevent any psychiatric morbidity. The objective of the study was to assess prevalence of depression, anxiety, and stress among doctors in their working place. This is a cross sectional study conducted among Fifty Doctors of both sex working at Mainamoti Medical College Hospital, from 1st May 2017 to 30th September 2017, using purposive sampling technique. Translated and validated short-form Bangla version of the Depression Anxiety Stress Scales (DASS-21 BV) was applied. Result showed that mean (±SD) depression score was 8.42 (±4.49), anxiety score was 10.78 (±4.68) and the mean (±SD) stress score was 13.20 (±6.71). The present study showed a moderately higher level of anxiety and mild degree of stress level among Doctors. Although No significant association was found between age and gender difference in depression, anxiety and stress score but this result was statistically significant between the groups.

Keywords: Depression, Anxiety, Stress, Prevalence.

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INTRODUCTION:

There is growing evidence of the global impact of mental illness. Mental health problems are among the most important contributors to the burden of disease and disability worldwide. It is increasingly being recognized that the mental health of employees is a crucial determinant in their overall health and that poor mental health and stressors at the workplace can be a contributory factor to a range of physical illnesses like hypertension, diabetes and cardiovascular conditions, amongst others. In addition, poor mental health can also lead to burn-out amongst employees, seriously affecting their ability to contribute meaningfully in both their personal and professional lives.[1] Data from different countries around the world indicate that mental health problems are a cause of a number of employees dropping out of work. In the Netherlands, around 58% of the work-related disabilities are related to mental health [2]In the UK, it is estimated that around 30-40% of the sickness absence is attributable to some form of mental illness.[3] Stress in medical practice has always been a topical issue.[4] This is partly because medical service involves taking care of other peoples' lives and mistakes or errors could be costly and sometimes irreversible. It is thus expected that the medical doctor himself must be in a perfect state of mind devoid of morbid worries and anxieties. The British Medical Association (BMA)

published a treatise on stress in junior doctors[5]. And later in senior doctors [6] .Depression is also common mental disorder in some occupational and unemployment sectors. The projection is for depression to become the second most common cause of disability by 2020.[7,8] Compared to other education; medical education is evidenced by high prevalence of stress.[9] Several studies have revealed that the incidence of stress and stress related illness such as anxiety and depression among the medical profession are increasing day by day. Work place load and Educational process exerts an inadvertent negative effect mental health with a high frequency of depression, anxiety and stress among medical professoners.[10] Identified main stressors are job insecurity ,Career structure, Career uncertainties, Inadequacy of resources and staff, Lack of senior support, Staff conflict, Professional isolation, patient"s expectations and demands, level of support from friends and family, high job demands, long work hours and financial responsibilities. Several other factors such as students new curriculum, traumatic events related to patients also make them vulnerable to depression.[11,15] lack of family support, are also one of the risk factors.[14] Keeping all these factors in mind; the present study was planned to describe findings of stress, anxiety, and depression among doctors in there workplace in a private medical college.

MATERIALS AND METHODS:

This is a cross sectional study conducted among Fifty Doctors of both sex working at Mainamoti Medical College Hospital, from 1st May 2017 to 30th September 2017, using purposive sampling technique. Thorough clinical history was taken. Data was taken from both intern doctors and Doctors who are working at Mainamoti medical college and hospital up to Assistant professor Level. Doctors having any major disorder or with recent history of any incidence affecting his/her mental health were excluded. Proper ethical procedures were maintained throughout the study. Data were collected through face-to-face interview using semi-structured questionnaire. Translated and validated short-form Bangla version of the Depression Anxiety Stress Scales (DASS-21 BV) was applied. 15 Original DASS-21 is a valid set of instrument having seven questions in English for each subscale.16 For short (21-item) version, multiplication of sum by 2 is needed.17 The DASS 21 has 7 items for each of the three scales. Items 3, 5, 10, 13, 16, 17, 21 form the depression scale and assess dysphoria, hopelessness, deviation of life, self-deprecation, lack of interest or involvement and inertia. The anxiety scale has 7 items; 2, 4, 7, 9, 15, 19, 20 which measures autonomic arousal, stress scale has items 1, 6, 8, 11, 12, 14, 18which quantifies the difficulty in relaxing, nervous arousal and being easily upset or agitated or irritable. The respondents rate the extent to which they have experienced the symptoms over the previous week on a four-point rating scale. The sum of scores obtained from the 7 items in each scale and the scale severity is interpreted as shown in Table 1. The scale has been tested and found to possess excellent reliability, good validity and simple in language and required less time.18

Table I: DASS Severity scale

Grades	Depression	Anxiety	Stress
Normal	0 -9	0 -7	0 -14
MILD	10 -13	8 -9	15 -18
Moderate	14 -20	10 -14	19 -25
Severe	21 -27	15 -19	26 -33
Extreme severe	28+	20+	34+

DASS: Depression, anxiety and stress scale

STATISTICAL ANALYSIS:

The data were analyzed and coded. The variables such as age, gender and doctors (Intern Doctor or Doctors in private job) were assessed. The variables were compared and t test was applied for statistical significance. A probability (p) value <0.05 will be considered statistically significant and $p>0.05$ will be taken as non significant. Statistical Package for Social Sciences, 21 Version (SPSS-21) was used for statistical analysis.

RESULTS:

Among 50 participants; 38 reported no evidence of depression. Eight cases showed mild depression, three were having moderate depression and one case showed severe depression. The mean (±SD) depression score was found to be 8.42 (±4.49). The mean (±SD) anxiety score was found to be 10.78 (±4.68). The mean (±SD) stress score was 13.20 (±6.71). For the overall sample, the level of depression was found to be in normal range [Table 2]. The results showed a moderately higher level of anxiety and mild degree of stress level among Doctors. We further grouped the sample into different groups to observe the correlation of factors on the stress level among Doctors. The data was grouped into three types; age, gender and doctors (Intern Doctor or Doctors in private job) [Tables 3-5].Although No significant association was found between age and gender difference in depression, anxiety and stress score but this result was statistically significant between the groups .

Table II: Overall DASS Score (n=50)

Scores	Normal	Mild	Moderate	Severe	Extreme Severe	Mean ± SD
Depression	38 (76.0)	8 (16.0)	3 (6.0)	1 (2.0)	-	8.42±4.49
Anxiety	8 (16.0)	18 (36.0)	16 (32.0)	4 (8.0)	4 (8.0)	10.78±4.68
Stress	28 (56.0)	11 (22.0)	10 (20.0)	1 (2.0)	-	13.20±6.71

Figure within parenthesis indicates in percentage.
SD = Standard Deviation

Table III: Depression Score

	Normal	Mild	Moderate	Severe	Extreme Severe	Mean ± SD	p value
Male (n=18)	13 (72.2)	3 (16.7)	1 (5.6)	1 (5.6)	-	9.28±5.51	0.316
Female (n=32)	25 (78.1)	5 (15.6)	2 (6.2)	-	-	7.94±3.81	
24 -29 Years (n=29)	21 (72.4)	5 (17.2)	2 (6.9)	1 (3.4)	-	9.07±5.06	0.233
30 -35 Years (n=21)	17 (81.0)	3 (14.3)	1 (4.8)	-	-	7.52±3.47	
Intern Doctor (n=25)	23 (92.0)	2 (8.0)	-	-	-	6.68 ±2.51	0.006
Doctors in private job (n=25)	15 (60.0)	6 (24.0)	3 (12.0)	1 (4.0)	-	10.16 ±5.34	

t test was done to measure the level of significance.
Figure within parenthesis indicates in percentage.
SD = Standard Deviation

Table IV: Anxiety Score

	Normal	Mild	Moderate	Severe	Extreme Severe	Mean ± SD	p value
Male (n=18)	4 (22.2)	7 (38.9)	5 (27.8)	1 (5.6)	1 (5.6)	10.06±4.58	0.418
Female (n=32)	4 (12.5)	11 (34.4)	11 (34.4)	3 (9.4)	3 (9.4)	11.19±4.76	
24 -29 Years (n=29)	5 (17.2)	11 (37.9)	9 (31.0)	1 (3.4)	3 (10.3)	10.55±5.00	0.690
30 -35 Years (n=21)	3 (14.3)	7 (33.3)	7 (33.3)	3 (14.3)	1 (4.8)	11.10±4.31	

Intern Doctor (n=25)	5 (20.0)	16 (64.0)	3 (12.0)	1 (4.0)	-	8.36 ±2.87	<0.001
Doctors In private job (n=25)	3 (12.0)	2 (8.0)	13 (52.0)	3 (12.0)	4 (16.0)	13.20 ±4.93	

t test was done to measure the level of significance.
Figure within parenthesis indicates in percentage.
SD = Standard Deviation

Table V: Stress Score

	Normal	Mild	Moderate	Severe	Extreme Severe	Mean ± SD	p value
Male (n=18)	10 (55.6)	4 (22.2)	4 (22.2)	-	-	12.94±6.05	0.842
Female (n=32)	18 (56.2)	7 (21.9)	6 (18.8)	1 (3.1)	-	13.34±7.14	
24 -29 Years (n=29)	13 (44.8)	9 (31.0)	7 (24.1)	-	-	13.97±6.33	0.348
30 -35 Years (n=21)	15 (71.4)	2 (9.5)	3 (14.3)	1 (4.8)	-	12.14±7.21	
Intern Doctor (n=25)	21 (84.0)	3 (12.0)	1 (4.0)	-	-	10.12 ±4.74	0.001
Doctors In private job (n=25)	7 (28.0)	8 (32.0)	9 (36.0)	1 (4.0)	-	16.28 ±7.04	

t test was done to measure the level of significance.
Figure within parenthesis indicates in percentage.
SD = Standard Deviation

DISCUSSION:

Bangla version of the short-form version of the Depression Anxiety Stress Scales (DASS-21 BV) was used instead of full version of DASS having 42 questionnaires. There are several published studies showing that the DASS 21 has the same factor structure and gives similar results to the full DASS.[19] DASS 21 has the advantage of taking only half the time to administer. The items in the DASS21 were selected on the basis of several criteria like good factor loadings, coverage of all subscales within each scale and item means that, DASS21 scores for each scale should be very close to exactly half the full scale score.[20] The present study showed a high-stress level among doctors at there working place. The anxiety level in our study was higher. However, the depression level was found to be in normal range in the present study [Table 2]. Pinto et al. in their study among residents and consultants in Goa Medical College reported 80% prevalence of stress.[21] Cohen et al. reported a stress prevalence of 34% among resident doctors in Canada. 9 In 2004, Sargent et al.[22]in their

study in USA in 2004 also reported 33% stress among resident doctors.[23] These findings were similar to the findings of the present study. However, the geographical settings as well as the working atmosphere of the resident doctors were totally different in these studies. Similar to our findings, some other studies[21,24,25] also reported almost same factors as the precipitating reasons for stress. In this study, it was seen that doctors in private job had the highest prevalence of stress. This can be explained by the view that they have a high level of role responsibility, increased workload, in addition to education, and patient care activities. Schneider et al. in their study in 1993 also found a significant amount of anxiety and depression among doctors.[26] In this study revealed a significant difference in stress level between doctors in private job and intern doctor [Table 5]. A significant difference in stress between Doctor in private job and intern doctor might be due to extended duty hours, increased workload, and dealing with patient and student related issues like managing relatives of patients in emergency situations, trauma cases, deaths, education related issue for students also maintaining interns etc. Patient-related issues were associated with increased stress among resident doctors as was also revealed by other studies.[27] Identified main stressors are job insecurity, Career structure, Career uncertainties, Inadequacy of resources and staff, Lack of senior support, Staff conflict, Professional isolation, patient"s expectations and demands, level of support from friends and family, high job demands, long work hours and financial responsibilities. Sargent et al.[22]in their study in USA in 2004 also reported 33% stress among doctors[23] These findings were similar to the findings of the present study. Revicki et al.[28] in their study also reported that support of peers and work group reduced stress among the residents. Residents who were not spending time with family and or friends were two times more likely to be in stress than residents whom were spending more time to the family and or friends. Earle et al.[29] also found in their study that 43.7% of residents turned to their family and or friends in hour of their need to relive stress. This finding can be explained by the fact that family and friends are the top-most supports in one's life and provide the social and mental security to a person. Stress was found to be significantly more in residents who did their job from outside cumilla district. This can be explained by the adaptive demands faced by a Doctor in a new place which include relocation to another area, mastery of a new organizational system, change in living atmosphere, separation from the families and or friends, and lack of social life.

CONCLUSION:

The present study shows that the proportion of depression, anxiety and stress among working doctors in their work place is very high. Steps should be taken to reduce depression, anxiety and stress and adequate service should be provided to manage psychological problem by medical college authority.

LIMITATIONS:

As it was a questionnaire-based study, the response made by the doctors may not be true information. The data were collected randomly and not at a particular time. Hence, the doctors may not be in similar mental state which could have affected the findings of the study. Proportionate sampling was not done, sample size was small only including intern doctors up to assistant professors level which might have affected the results of our study. So, further studies with more sample size using multivariate techniques are to be planned.

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R0LE OF CARBETOCIN OVER OTHER OXYTOCICS IN THE PREVENTION AND MANAGEMENT OF PRIMARY POST PARTUM HAEMORRHAGE

(A comparative study on randomized controlled trial)

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ABSTRACT BACKGROUND: Aim of this retrospective observational study is to compare the effectiveness and safety of carbetocin versus oxytocin and ergometrin in the prevention and management of primary PPH. The purpose of this study is to examine the potential role of Carbetocin in the decline of maternal deaths attributed to PPH in Bangladesh.

METHODS AND MATERIALS: A comparative study was conducted in which 150 pregnant women were selected & randomized into 3 equal groups. Those patients were given different oxytocic drugs. Group: I - received Carbetocin 100 microgram, Group: II - received Oxytocin 10 IU. Group: III - ergometrine 5 mg PLACE AND PERIOD OF STUDY: The study were conducted in Mainamoti Medical college and different private clinics at Cumilla from June, 2015 to May, 2017.

RESULTS: In my study, Group I shows rapid onset of action than Group II and Group III. The amount of blood loss and the need for other uterotonic were significantly lower in Group I. Need for blood transfusion in PPH was also reduced carbetocin group than in oxytocin and ergometrine groups. Regarding drug side effects there is no significant difference between Gr-I and Gr-II but Gr III has some side effect.

CONCLUSION: Group-1 shows less blood loss during postpartum period both in vaginal and caesarean delivery. Group-1 and group-II have no significant side effect, but 3rd group shows some side effect like hypertention, nausea, vomiting, headache etc.

KEY WORDS: Carbetocin, Oxytocin, Ergometrine, Atonic PPH.

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INTRODUCTION:

PPH is defined as any amount of blood loss following delivery which adversely affect general health status of mother[1]. It arises mainly from the failure to contract after delivery leading to blood loss. Blood loss may be more than 500ml after vaginal delivery and more than 1000ml after caesarean section[2].Those condition may occur within first 24 hours after delivery (primary PPH) or between 24 hours and 6 weeks after delivery (secondary PPH). PPH is still one of the major causes of maternal morbidity and mortality worldwide. Among the estimated 287000 maternal death worldwide, 85% occur in low and middle income countries[3]. In Bangladesh, hemorrhage has been identified as one of major cause of both maternal mortality [4,5] and morbidity[6,7]. The most recent maternal mortality survey in Bangladesh reported that MMR is 198 per 100000. Among them, PPH is the first cause of death about 24%. PPH poses a significant public health challenge in low-resource settings because of its low predictability[8] and the speed at which it kills; without intervention, 88% of women who die of PPH within four hours of delivery[9]. Besides this, the first cause of haemorrhage at the time of delivery is atoic uterus. PPH due to uterine atony has contributed to this rise, although the reasons for this; remain unclear[10,11,12]. Risk

factors of this includes
prior PPH, large baby, prolong labour, augmented labour, placental abnormalities, anaemia[13-19]. Active management of 3rd stage of lobour is recommented to reduce blood loss[20-23]. Utero-tonic agent's promot uterine contraction to reduce blood loss.

Oxytocin is the most widely used utero-tonic drug[24]. Its onset of action is within 5-10 min of delivery and last less than 30min. Continuous administration is needed to achieve sustained action.

Carbetocin is long acting synthetic analogue of oxytocic with rapid onset of action (less than 2 min) and stimulats a prolonged uterotonic effect lasting about an hour. Carbetocin is better than other oxytocic drug due its prolonged uterotonic activity offered in the management of primary PPH. But we have no adequate research data for its safety use. The purpose of this paper is to examime the potential role of carbetocin in the management and prevention of primary post partum hemorrhage.

MATERIAL S AND METHODS:

This observational study was carried out in the department of obstetrics and gynecology of Mainamoti Medical collage Hospital and different private clinics in Comilla during the period of June-2015 to May-2017. 150 pregnant women were recruited in this study group irrespective of age, parity, social status, mode of delivery. 150 patients were randomized into 3 equals study groups. Study was approved by ethical committee. An inform consent was obtained from each patient's family.
The uterine tone and amount bleeding were assessed within 2 min of delivery. Blood loss was estimated visually and through weighing the swabs and using number of sanitary pads.

RESULTS:

The amount of blood loss and the need for other uterotonic were significantly lower in Carbetocin (850+/-200) vs oxytocin (1200+/-500) vs ergometrine (1100+/-300) respectively. Need for blood transfusion in PPH was also reduced in carbetocin group than in oxytocin and ergometrine groups. There is no significant difference between study group I and group II regarding both systollic and diastolic BP measured immediately after drug administration and at 30 min and 60 min after. But there is rise of BP in ergometrine group. Regarding drug side effects there is no significant difference between Gr-I and Gr-II in the occurrence of nausea, vomiting, tachycardia, palpitation, flushing, dizziness, headache, itching, dyspnoea and metallic taste.

Table-I: Character of study population.

Age of patient	Number	Percentage
18-22	88	55.3%
23-27	36	24%
>27	26	17.3%
Parity		
Primi	42	28%
Multi	108	72%
Socio-economic status		
Low	18	12%
Middle	42	28%
high	90	60%
Mode of delivery		
SVD	103	68.6%
C/S	47	31.3%

Table-II: predisposing factors.

Sl	Predisposing factor	Gr-I Carbetocin (n -50)	G-II Oxytocin (n -50)	G-III Ergometrin (n -50)
01	H/O PPH	04 (2.6%)	03 (2.1%)	07 (4.7%)
02	Anaemia	10 (6.6%)	12 (7.9%)	09 (5.9%)
03	Fetal macrosomia	03 (1.9%)	01 (.66%)	03 (1.9%)
04	Twin pregnancy	02 (1.3%)	00 (0.0%)	02 (1.3%)
05	APH	03 (1.9%)	05 (3.3%)	04 (2.67%)
06	Prolong labour	15 (9.9%)	18 (11.88%)	13 (8.58%)

Prolong labour is the most common cause of primary PPH.

Table-III

Events	G-I (Carbetocin)	G-II (Oxytocin)	G-III (Ergometrine)
Amount of bleeding	850+/ -200ml	1200+/ -500ml	1100+/ -300
Need for other Utero -tonic	7 (14%)	17 (34%)	12 (24%)
Need for Blood transfusion	3 (6%)	8 (16%)	6 (12%)

G-I shows less blood loss than other groups

Table- IV: Effect drugs on BP:

Time of drug Administration	Gr-I (Carbetocin)	Gr-II (Oxytocin)	Gr-III (Ergometrine)
Systolic BP & Immediately	115/75mm	120/80mm	130/90m
Diastolic BP after drug-30min after	105/65mm	110/70mm	140/95m
Diastolic BP after drug-60 min after	110/70mm	115/75mm	140/90m

Table- V: Side effect after use of drugs:

Side effect	Gr-I (Carbetocin)	Gr-II (Oxytocin)	Gr-III (Ergometrine)
Nausea & Vomiting	1 (2%)	1 (2%)	32 (64%)
Tachycardia & palpitation	3 (6%)	1 (2%)	17 (34%)
Headache & shevering	1 (2%)	0 (0%)	09 (18%)

Table-VI: Measures to take if bleeding after failure of oxytocic drugs:

Measu res	Gr-I (Carbetocin) N-50	Gr-II (Oxytocin) N-50	Gr-III (Ergometrine) N-50
Oxytocin infusion	1 (2%)	15 (30%)	10 (20%)
Misoproston	1 (2%)	9 (18%)	3 (6%)
B-lynch	1 (2%)	7 (14%)	5 (10%)
Internal iliac artery ligation	0 (0%)	0 (0%)	0 (0%)
Hysterectomy	0 (0%)	0 (0%)	0 (0%)

DISCUSSION:

To the best of my knowledge, there is no adequate study in our country to compare the effectiveness and safety of Carbetocin over other oxytocic drugs in the prevention and the management of primary PPH. Our study highlighted some discrepancies between estimated blood loss and documentation of blood clots and excessive bleeding. Routine visual estimation of blood loss are known to be inaccurate.

Our results have shown that when compare to oxytocin and ergometrine ; Carbetocin has significantly reduce postpartum blood loss and lowers the need for other utero-tonics in women with atonic PPH without significant side effect.

From Table-III, this can be explained by the action of Cabetocin effects more uterine response in terms of frequency, amplitudeand uterine contraction.The amount of blood loss in Carbetocin groups were lower significantly. We also found that need for additional uterotonic were lower in Carbetocin groups. So it concluded that Carbetocin is more effective than oxytocin or ergometrine in the management of PPH. So it can be said that carbetocin is the better alternative to other oxytocic drugs.
Our result agreed Moertl et al who studied on 56 women. They measured haemodynamic parameter before and after delivery with the use of Carbetocin and oxytocin. They found no significant haemodynamic change.

From Table-IV:

There was no significant difference between Gr-I and Gr-II regarding systolic and diastolic BP immediately after drug administration. But Ergometrin increases BP. So Ergometrine should not be administered in hypertensive patient. Samimi et al found same result.

From Table V:

There is no significant side effect like nausea, vomiting, tachycardia, palpitation, headache, flushing in the use of carbetocin & oxytocin. But ergometrin may cause such side effect

Our result agreed with those of Samimi et al who took part in study over 200 women undergoing vaginal delivery receiving either Carbetocin or oxytocin to prevent PPH. They found that the need for additional uterotonics was significantly lower in Carbetocin group. The concluded that Cabetocin is more effective than oxytocin in the management of PPH.

Our study have also agreed with those of Maged et al who randomized 200 women. They found that bleeding during delivery were reduced significantly by use of Carbetocin.

Boucher et al and Attilakos have found no significant difference in the amount of bleeding in use of Carbetocin in PPH management which is different from our study.

CONCLUSION:

Carbetocin is a better alternative oxytocic in the management of atonic PPH with non significant heamodynamic changes or side effects. Carbetocin, 100 microgram given as an I/V bolus over 1 min, should be used instead of continuous oxytocin infusion in elective caesarean section for for prevention of PPH and to reduce the need for therapeutic uterotonics. In case of normal vaginal delivery with risk factor of PPH, Carbetocin 100 micro gram I/M reduce the need for uterine massage to prevent PPH when compared with continuous infusion of oxytocin.

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Parenting Stress Among The Mothers of Children With Down Syndrome

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Abstract Background : Down Syndrome or trisomy 21 is the most common chromosomal abnormality in human. It is typically associated with delay in cognitive ability, physical growth and particular set of facial characteristics. Parenting was both rewarding and challenging task for most parents and being the parent of a child with a disability added more challenges. Mothers were prime care givers of a child and it would be more important for these type developmental delay and behavioral problematic child and challenges were more for handling, brought and attached with main stream life style. The purpose of this study is to examine the level of parenting stress among mothers and to evaluate the factors associated with stress.

Keywords: Down syndrome, parenting stress, trisomy 21, parenting stress scale,

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Introduction:

Down syndrome also known as trisomy 21, is the most common chromosomal abnormality in human. It is typically associated with a delay in cognitive ability and physical growth and a particular set of facial characteristics. The average IQ of young adult with Down syndrome is around 50.[1] There was no much published work focusing on parenting stress among the mothers of children with down syndrome in developing countries like Bangladesh.

It will focus on parenting stress among mothers rather than fathers since mothers are the primary care givers and spent more time with children.

Down Syndrome is named after John Langdon Down, the British physician who described the syndrome in 1866.The condition was clinically described earlier by Etienne Dominique Esquirol and Edouard seguin in 1844.Down syndrome was identified as a chromosome 21 trisomy by Dr.Jerome Lejeune in 1959.down syndrome can be identified in a newborn by direct observation or in a fetus by prenatal screening.[2]

Down syndrome is a relatively common congenital birth outcome resulting from chromosome 21 abnormality. It is most common chromosomal cause of intellectual disabilities. the majority(95%) of these children have a whole extra chromosome as a result of non disjunction. a number of children with this disorder have an extra part of chromosome 21as a result of translocation and a smaller sub group of these children have an extra chromosome 21 in only some of there cells(mosaicism). Because of extra chromosome 21, a child develops problem physically and mentally. It is commonly believed that mothers of children with Down syndrome have high level of stress associated with parenting. The mothers of children with this disability are at risk of

above average stress level, stress are not inevitable.[3,4]
Being a mother has been described as a juxtaposition of experiences from joy to stress, particularly when facing the challenges of daily life. Raising a child with an intellectual disability can present mothers with additional challenges. Higher instances of stress, anxiety and depression have been reported in mothers of children with Down syndrome than in mothers of typically developing children.[5]

The mothers are in world of frustrations when observing the delay in their child's achievement of physical and emotional developmental milestones in comparison to normally developing child. They are anxious as a result of not knowing when their child will reach the normal developmental milestones . Coping with child behavioral problems by mothers as one of the most significant stressors in raising a child with Down syndrome. When their child hurts other children or younger siblings that is really distressing or embrassing. As a result of aggressive and antisocial behavior of Down syndrome child, there was resulting in the restriction of family outing, holidays, and socializing .[6]
The purpose of the study is to examine the parenting stress level among mothers of children with Down syndrome and to evaluate the factors associate with the parenting stress. It tried best to determine the level of parenting stress among the mothers of Down syndrome child which will be helpful to mitigate the social barriers and to reduce social misconceptions and to find out positive coping strategies are used by most mothers and will highlight the importance of family counseling, spouse support and behavioral interventions for the child which will help to reduce maternal parenting stress.

Materials and methods:

It was a descriptive type of cross sectional study which was conducted in selected 9 special schools in Dhaka city with a view to assess the level of parenting stress among the mothers of children with down syndrome and to identity and determine the variables associated with it. A total of 55 mothers were selected purposively. A pretested semi structured questionnaire was used for collection of data. The data were analyzed by SPSS 19 version.

Results:

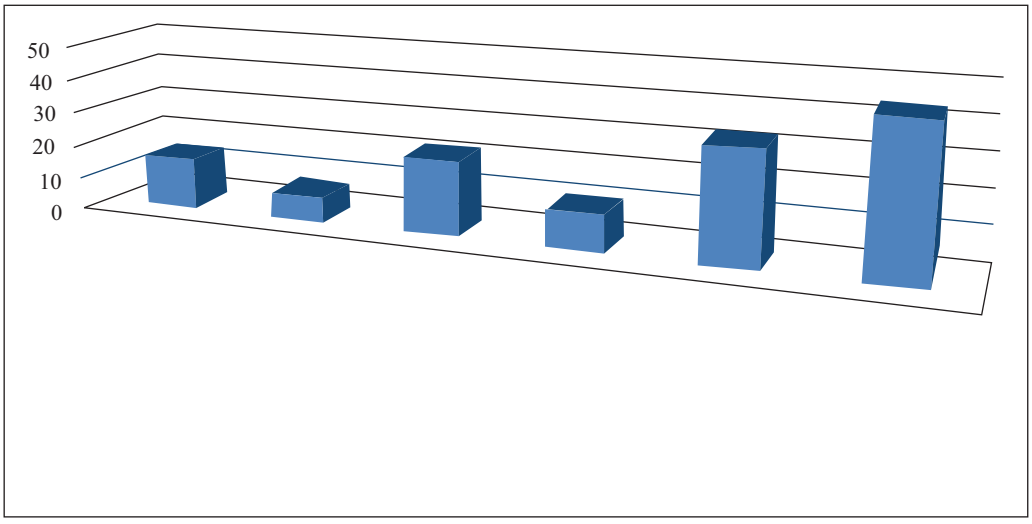
A total of 55 respondents were face to face interviewed by using modified self administered questionnaire. Most of the mothers were 35-44years of age(36.4%) and most of the respondents were married(92.7%).Maximum mothers were housewives(83.6%) and most of them(50.9%) were in monthly income range 15000-50000tk.

Most of the child were improved their conditions after continuing special schools (Table I). Various physical problems of the child was described in Fig 1.

Table I: Distribution of the respondents by improving the condition of their child after schooling(n=55)

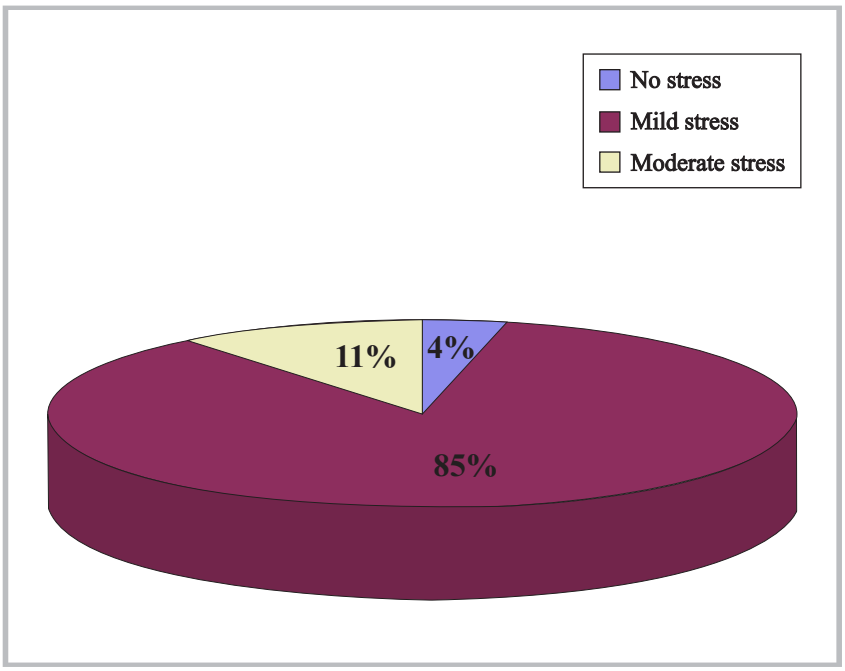
Condition of child after schooling	Frequency	Percent
Improved	50	90.9
Not Improved	5	9.1
Total	55	100.0

Fig:1 Distribution of the respondents by physical problems of their child(n=27)



Majority of the (85%) respondents were in mild stress followed by 11% were in moderate stress and only 4%we in no stress group (Fig 2).

Fig.2:Distribution of the respondents by parenting stress.



Most of the respondents were mild stress (90%) with child had no behavioral problems ,on the other hand mothers with moderate stress level(11.6%) with child having behavioral problems.

There was no significant relationship observed between age, marital status, occupation, family type, monthly income and behavioral problems of the child.

Table II: Relation of stress according to behavioral problem of child (n=43)

Behavioral problem	Stress				Total	Chi - square ($\chi 2$)	P value
	Mild		Moderate				
	No	%	No	%			
Yes	38	88.4	5	11.6	43	($\chi 2$) = 0.021	p=0.884
No	9	90.0	1	10.0	10		
Total	47	88.7	00	11.3	53		

In this study there was no respondents in severe stress, because no mother considers her child as financial burden and adopt herself with behavioral and physical problems of their child and modified herself with social sigma.

Discussion:

Out of total 55 respondents ,maximum age was 60 years and minimum age was 29 years .i,e. mean age of them was 41.42 years. A similar study was conducted on 147 Malaysian mothers of Down syndrome child had Mean age 43.1 years and their age ranged from23 to 59 years and SD= ±7.6 years.[4] An another earlier study conducted on 27 mothers of Down syndrome child found mean age 32.8 years and SD= ±6.1 years.[7]

Almost all mothers (92.7%) were married in this study. Only 3 were widow and 1 was divorced. Of these mothers, majority (29.1%) completed post graduated level of education but only 9.1% had primary education. An earlier study showed that about half (57.1%) of respondents had secondary level education and only a few (6.1%)of them completed college and university education. This reverse picture means that ,in our country only mothers having high educational status got opportunity to sent their child into special school. In Malaysia, mothers of all educational background got chance to sent their child in special institution because they got govt. incentive or allowance.[3]

In this study, occupational status of the respondents described as most (83.6%)of them were housewives, only 9 mothers out of total 55 were employed. In another study revealed that 71.4% respondents were housewives. This dissimilar percentage described as, a very few number of full time special schools were available in our country and also very expensive.[3]
Among the total 55 respondents, most (78%) of them lived in nuclear family, it was due to the study sample were collected in Dhaka city. It means that it was family trend in town.

In this study, the age range of Down syndrome child was 4-25 years and mean age was 10.75 years. An earlier comparative study with normative sibling and other intellectual disability described as age ranged 4-19 years and mean age was 10.5 years.[8]

Among total 55 respondents, most (91%) of them went for antenatal follow up. But this chromosomal abnormality is detected by karyotye analysis not by antenatal checkup. This invasive and expensive procedure is only available in limited super specialized centre also need skilled professional.

Distribution of respondents by facing problems during pregnancy was only 17 out of 55 for complication during antenatal period, but most of them had no problem during pregnancy, because it was a chromosomal abnormality and related to maternal child bearing age. Only prenatal screening essential for diagnosis.

Majority (64%) of the respondents gave birth their child by caesarian section .In another similar study revealed 27.2% had caesarian delivery. This different percentage explained that in our country neonatal management facilities were not available in all health care delivery centre ,only a few number of super specialized hospital provided that type of facilities. In contrast a large number of mothers of foreign country had experience of normal vaginal delivery due to access of special care baby unit (SCABU).[3]

The mean age at diagnosis of case of Down syndrome was 8.65 months with SD=11.83 months. Twenty one mothers expressed their sorrowful experiences of diagnosis of their child as a special case within 30 days of delivery. In absence of expert health care professional for physical examination facial characteristics and chromosome study was available in selected medical institution of our country.

Most of the respondents(90.9%) were satisfied about their child condition after schooling. Improvement of child condition was not depend only schooling but also provision of suitable home environment, quality time spent by parents and family members, regular provision of speech and language therapy, occupational therapy and as well as physiotherapy as per needed.
In this study, 50.9% of respondents had child with no physical problems and another similar study conducted in Asia showed 58.5% of the children having no medical problem.[3]

In this study ,most (78%) of the respondents had child with behavioral problems. An earlier study revealed ,22.4% of respondents had children with reported physical problem. An another study conducted in USA, showed out of 27 respondents 25.22% had child with destructibility character.[9]

It was seen that a few number of comparative study revealed that parenting stress was higher among the mothers of intellectual disable child like Down syndrome than mothers of typically developing children. But this cross sectional study showed that majority (85%) of the respondents were in mild stress. Mean stress score was 31.30 and minimum and maximum stress score was 19 and 51 respectively. This finding was similar to earlier study like as mean parenting stress score of Malayansian mothers was 37.6 and ranged from 21 to58.

Conclusion:

Down syndrome is a non curable diseases, but prevention and rehabitation is possible. So, early diagnosis and interventation are needed to reduce the social burden and parenting stress of the mothers. Child's improvement depends on a complete team work

where mother, other family members, teachers, physician and therapists also work together with a mission for development of these special needed child. A good communication between team members and regular sharing of child improvement report will be make a child independent main stream living where they express their capacity and mitigate their communication barriers and take their place in community. In the light of findings of this study of the following recommendations are adviced:

Prenatal diagnosis like amniocentasis and chorionic villus sampling will have to be available and cost effective in all antenatal care delivery centre which are applied in only high risk mothers.

A large number of special schools with integrated education and enriched with skilled teaching stuff will have to be established.

Mass media and social network play a vital role making public awareness.

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Depression among Rural Adolescents

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Abstract Background:

Adolescent depression is a mental and emotional disorder affecting adolescents and teens. According to WHO; globally depression is the number one cause of illness and disability in adolescent age group. Approximately 20% of teens will experience depression before they reach adulthood. Depression increases a teen's risk for attempting suicide by 12 times and 30% of teens with depression also develop a substance abuse problem. The aim of this study was to estimate the level of depression among the rural adolescents. This cross sectional study was done in Adarsha Sadar, Comilla, Bangladesh in between January, 2014 to December, 2014. Study sample was 339 adolescents of 13 to 19 years of that area. By purposive sampling technique data were collected through a pretested, semi-structured, interview questionnaire. Beck Depression Inventory Scale was used to assess the level of depression. The result showed that among the adolescents 44.5 percent were depressed.

Key words: Adolescence, adolescent depression

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Introduction:

Adolescent depression is a mental and emotional disorder affecting adolescents and teens. More commonly referred to as teenage depression, adolescent depression is not medically different from adult depression. However, symptoms in teens may manifest in different ways than they do in adults. This is due to the different social and developmental challenges facing teens. Peer pressure, sports, changing hormone levels, developing bodies, awkward tendencies, and a host of other factors can carry many ups and downs for teenagers. However, these ups and downs can be signs of depression. Depression is associated with higher levels of stress, anxiety and in the worst possible scenarios, suicide. It can also affect a teen's personal, school, work, social, and family life, which can lead to social isolation and other problems. [1]

Depressive disorders, causing a very high rate of diseases' burden, are expected to show a rising trend during the coming 20 years. It is a significant public health problem with relative common, high prevalence and its recurrent nature profoundly disrupts patients' lives. General population surveys conducted in many parts of the world, including some South-East Asian Region countries, constituting 18 to 25% of the population in member countries region, in which 15 to 20% children and adolescents suffered from it that, are almost similar to that of adult populations. Inability to

cope with intense emotions in healthy ways may lead adolescents to express their pain and frustration through violence or self-injury, or to attempt to numb themselves of emotions through isolation, reckless behaviours, and alcohol or illicit drug use. Furthermore, other behaviours and attitudes are also linked to adolescents mental health; aggressiveness and disregard for laws or rights of others; isolation from peers, family and other emotional relationships or the inability to keep one's disappointments in perspective and academic stress. [2]

Among the major psychiatric disorders, depression is one of the most common to occur and frequently begins during adolescence. Depression has been shown to greatly impair adolescents in numerous ways, such as by increasing suicide attempts and increasing the likelihood of substance use. Adolescent depression may continue to negatively affect their mental and physical health well into adulthood. [3] Adolescent depressions are not always manifested by sadness but by irritability, boredom, or an inability to feel pleasure. Depression is a chronic, recurrent, and mostly an inherited illness. Frequently, the first appearance of depression occurs during childhood or adolescence. Prolonged depressive episodes happen in an individual with dysthymic disorder that gradually progresses into major depression. [4]

At least 5% of adolescents, roughly 1 in 20 teenagers, will experience an episode of major depression, making it one of the most common medical illnesses young people face. Prior to puberty, males and females report similar rates of depression. During and after adolescence, females begin to show higher rates of the illness, nearly two to one. Depression is associated with increased risks of substance abuse, unemployment, early pregnancy, and educational underachievement. Suicide, the most serious risk of the illness, is the third leading cause of death in 15-24 year olds and the second leading cause of death among college students. There is a clear link between Depression and suicide. [5]

Methods and materials:

This is a descriptive cross sectional study done among 339 adolescents of 13 to 19 years old. The study was done in Adarsha Sadar, Comilla, Bangladesh in between January, 2014 to December, 2014. Data were collected by purposive sampling technique. A pretested, semi-structured, interview questionnaire was used for data collection by interviewing the adolescents. Adolescents younger than 13 years were excluded from the study, as the scale can be administered to people above the age of 13.

Beck Depression Inventory Scale (BDI) was used to assess the level of depression of the adolescents. BDI is divided into two main sections, one comprising of questions pertinent to emotional symptoms and the other containing questions pertinent to physical or physiological symptom. The scale consists of 21 items with four response choices, reflecting the participants' reported experience over the past week. The highest possible score was sixty-three and the lowest possible score for the test was zero.

Statistical analysis:

For analyzing data some descriptive statistics like frequency table, percentage, mean, median, mode, range and standard deviation were used. This analysis was done by using SPSS and Microsoft Excel software package. Data were presented by appropriate tables, statistical inferences and standard writing style.

Results:

This study was done among 339 adolescents of 13 to 19 years old. The result was given according to the objectives of the study.

Table I: Sociodemographic characteristics of the respondents

Variables	Sub-variables	Number	Percent
Sex	Male	136	40.1
	Female	203	59.9
Age group	13-15	210	61.9
	16-19	129	38.1
Marital status	Unmarried	301	88.8
	Married	38	11.2
Religion	Islam	305	90
	Hindu	34	10

Table I describes the sociodemographic characteristics of the respondents. From the table I it was found that among the 339 adolescents 40.1% were male while 59.9% were female. Most of the adolescents (61.9%) were from the age group 13 to 15 years, while the rest of them (38.1%) were from the age group 16 to 19 years. Regarding marital status 88.8% were unmarried while 11.2% were married. Among the adolescents 90% were Muslims while the rest of them (10%) were Hindu.

Table II: Distribution of adolescents by the presence of depression

Level of depression	Frequency	Percent
Had depression	151	44.5
Had no depression	188	55.5
Total	339	100.0

Table II represents the prevalence of depression among the adolescents. Table II illustrates that majority of the adolescents had no depression, while 44.5 percent adolescents had depression.

Table III: Distribution of the adolescents by level of depression

Level of depression	Frequency	Percent
These up and downs are considered normal	138	40.7
Mild mood disturbance	42	12.4
Borderline clinical depression	8	2.4
Moderate depression	37	10.9
Severe depression	84	24.8
Extreme depression	30	8.8
Total	**339**	**100.0**

Table III delineate the different level of adolescents' depression of current study. Table III presents that among these adolescents 40.7 percent was within normal up and downs mood, 12.4 percent had mild mood disturbance, 2.4 percent had border line clinical depression, 10.9 percent had moderate depression, 24.8 percent had severe depression and 8.8 percent had extreme depression.

Discussions

In this current study among 339 rural high school adolescents 59.9% were female and 40.1 percent were male. 61.9% adolescents were from the age group 13 to 15 years while the rest of the adolescents (38.1%) were from the age group 16 to 19 years and mean age of the adolescents was 15.15± 1.812 years. 88.8% adolescents were unmarried while 11.2% were married. Regarding religion 90% were Muslims while the rest of them were (10%) were Hindus.

The result of the current study demonstrated that majority of the adolescents (55.5%) had no depression, while 44.5% adolescents had depression. A similar study was done in Chandigarh, India using the Beck Depression Inventory scale to find out the prevalence of depression among the adolescents of a secondary school. The result showed that 55% adolescents were depressed [6].

Another study done by Dr. Syed Muhammad Baqui Billah, and Dr. Farzana Islam Khan named "Depression among Urban Adolescent Students of Some Selected Schools" to assess the situation of depression among adolescent students. Depression Scale (CES-D) was used to measure the presence of depression. It was found that 49% respondents were depressed.[7]

While considering the level of depression it was found that among these adolescents 40.7 percent was within normal up and downs mood, 12.4 percent had mild mood disturbance, 2.4 percent had border line clinical depression, 10.9 percent had moderate depression, 24.8 percent had severe depression and 8.8 percent had extreme depression.

Conclusion:

Today's adolescents will be the leaders of future generation. This study has identified adolescents' depression as a significant public health problem. Despite of many adolescent health programmes taken by the government depression is still ignored. Many factors are responsible for development of adolescent depression. Measures should be taken immediately to detect the factors that are associated with adolescent depression and their remedies. As well as, authorities also should take immediate necessary steps to combat this newly arising health problem, adolescent depression.

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Cut throat injuries-A Forensic Study

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Abstract Background:
This study was done to evaluate the pattern and aetiological factors in relation to cut throat deaths. This is an autopsy based retrospective study of three years (from 01.01.2013 to 31.12.2015) done at Sir Salimullah Medical College Morgue House. Present study revealed 87 cases of cut throat injuries out of the total 6200 medico legal autopsies during the period of three years accounting for 1.38% of the total. Male victims (61 cases) outnumbered the females (26 cases). The most affected age group was 21-30 years (combined male & female)i.e40 cases (45.97%). Homicide (73 cases/83.90%)) was the commonest manner of death followed by suicide and accident. Associated injuries were found in 67 cases (77.01%) out of the total. Hemorrhage (45 cases/51.72%) was the predominant cause of death followed by asphyxia due to aspiration of blood, other injuries and air embolism. Fields/Farms (in 45 cases/51.72%) were the commonest place of occurrence followed by working place, public place, outside house, home and confined room. Gang violence (in 36 cases/41.37%) was found to be the main motivational factors followed by relationship, financial hardship, domestic violence and robbery. Butcher's knives (in 62 cases/71.26%) were the mostly used causative weapon followed by kitchen knife, axe and ramda.

Key words : Cut throat injury, death, postmortem examination.

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Introduction:

Cut throat injury causes profound morbidity due to prolonged hospitalization, high cost of health care, loss of prod2345789uctivity, reduced quality of life and above all death [1,2] . Globally, cut throat injuries account for approximately 5% to 10% of all traumatic injuries with multiple structures being injured in 30% of patients [3,4,5,6,7]. The term "Incised wound" is derived from the latin word "Incidere" which means cut into [8]. An incised wound is a clean cut through the tissues by an object with sharp cutting edge[9]. Usually, the incised wounds are deeper at the commencement (as is expected from the process of drawing or sweeping through which they are produced) except in case of suicidal cut throat injuries with hesitation cuts at the beginning. Towards the termination, the cut becomes progressively shallow, known as "tailing of the wound"[10]. Cut throat injuries are incised wounds in the anterior neck inflicted by the sharp weapon [11]. In developing countries the incidence is increasing at a fast rate partly because of increasing conflict over limited resources, poor socio-economic status, poverty, unemployment, easy access to firearms, alcohol and substance misuse and increased crime rates [12]. The etiology of cut throat injuries can be broadly divided into suicidal, homicidal or accidental in occurrence [13]. Familial troubles, psychiatric illnesses and poverty are documented triggering factors in suicidal attempts. The triggering factors for homicide are political conflict, familial, land related disputes and sex related crimes [14,15].

Aims and Objectives :

The study was conducted to find out –
1. The pattern and incidence of cut throat injuries.
2. The cause, manner and influential factors in connection with cut throat injuries.
3. The risk factors and groups to control incidence.

Materials and Methods :

This is a retrospective autopsy based study done at Sir Salimullah Medical College Mortuary during the study period from 01.01.2013 to 31.12.2015. During that period we observed 87 cases of cut throat injuries out of the total 6200 medico legal autopsies comprising 1.38% of the total. History was collected from the relatives of the dead persons or from the investigating police officer. Thorough and complete medico legal autopsies were done and routine preservation of viscera was done in suspected cases of poisoning and sent for chemical analysis.

Observations and Results :

Most of the cases of cut throat injury were observed in the year 2015 i.e 36 cases out of 2300 medico legal autopsies comprising 1.56% followed by 29 cases (1.38%) in 2014 out of 2100, and 22 cases (1.22%) in 2013 out of the total 1800 medico legal autopsies. It signifies an annual increase in the number of cut throat injuries following death. In total we observed 87 cases of cut throat injuries out of the total 6200 medico legal autopsies comprising 1.38% (Table-1).

Males (61 cases) were the prime victims which outnumbered the femalesi.e 26 cases out of the total 87 cases of cut throat injuries. The most affected age group for both sexes was 21-30 years i.e in 40 cases (45.97%) followed by 41-50 years (15 cases/17.24%), 11-20 years (14 cases/16.09%), 31-40 years (9 cases/10.34%), 0-10 years (5 cases/5.74%) and >50 years 4 cases accounting for 4.59% of the total 87 cases (Table-2).

Most of the cases were of homicidal i.e 73 cases (83.90%) followed by suicidal 12 cases (13.79%) and accidental 2 cases comprising 2.29% of the total (Table-3).

We observed 41 cases of sharp force injury (47.12%) followed by 16 cases of blunt force injury (18.39%), 7 cases of firearm injury (8.04%) and 3 cases of toxic injury (3.44%) as associated injury out of the total 87 cases of cut throat injuries. In total we had 67 cases (77.01%) where associated injuries were found along with the cut throat injuries (Table-4)

Haemorrhage was the predominant cause of death i.e in 45 cases (51.72%) followed by asphyxia due to aspiration of blood in 22 cases (25.28%), other cases (Firearm injuries/Stab injuries/Chop injuries) in 15 cases (17.24%) and air embolism in 5 cases comprising 5.74% of the total (table-5)

Fields/farms were the commonest place of occurrence i.e in 45 cases (51.72%) followed by working place in 12 cases (13.79%), public places in 9 cases (10.34%), outside house in 8 cases (9.19%), home in 7 cases (8.04%), and confined room in 6 cases comprising 6.89% of the total (Table-6)

Gang violence was the main motivational factor i.e in 36 cases (41.37%) followed by relationship in 31 cases (35.63%), financial hardship in 11 cases (12.64%) domestic violence in 5 cases (5.74%) and robbery in 4 cases accounting for 4.59% of the total 87cases of cut throat injuries (Table-7)

Butcher's knives were the predominantly used weapon i.e in 62 cases (71.26%) followed by kitchen knives in 17 cases (19.54%), axe in 6 cases (6.89%) and finally 2 cases comprising 2.29% of the total 87 cases (Table-8).

Table-I :Year wise distribution:

Year	Total no of PM Examination	Cases of cut throat in juries	Percentage%
2013	1800	22	1.22%
2014	2100	29	1.38%
2015	2300	36	1.56%
2013-2015	6200	87	1.38%

Table-II : Combined age and sex wise distribution (N=87)

Age group (Years)	Males	Females	Total No (%)
0-10 years	3	2	5 (5.74%)
11-20	10	4	14 (16.09%)
21-30	32	8	40 (45.97%)
31-40	4	5	9 (10.34%)
41-50	9	6	15 17.24%)
>50	3	1	4 (4.59%)
Total	61	26	87 (100%)

Table-III : Manner of death (N=87)

Manner of death	Number and Percentage %
Homicidal	73 (83.90%)
Suicidal	12 (13.79%)
Accidental	2 (2.79%)

Table-IV : Other associated injuries (N=87)

Type of injury	Number	Percentage %
Sharp force injury	41	47.12%
Blunt force injury	16	18.39%
Firearm injury	7	8.04%
Toxic injury	3	3.44%

Table-V : Causes of death (N=87)

Cause of death	Number	Percentage %
Haemorrhage	45	51.72%
Asphyxia due to aspiration of blood	22	25.28%
Air embolism	5	5.74%
Other causes-Firearm injuries, stab/chop wounds	15	17.24%

Table -VI : Place of occurrence (N=87)

Place of occurrence	Number	Percentage %
Fields/Farms	45	51.72%
Working place	12	13.79%
Public place	9	10.34%
Outside house	8	9.19%
Home	7	8.04%
Confined room	6	6.89%

Table-VII : Motivational factors (N=87)

Motivational factors	Number	Percentage%
Gang violence	36	41.37%
Relationship	31	35.63%
Financial Hardship	11	12.64%
Domestic violence	5	5.74%
Robbery	4	4.59%

Table-VIII : Causative weapon (N=87)

Causative weapons	Number	Percentage%
Butcher's knife	62	71.26%
Kitchen knife	17	19.54%
Axe	6	6.89%
Ramda	2	2.29%

Discussion :

Cases of cut throat injury were observed mostly in the year 2015 i.e 36 cases out of 2300 medicolegal autopsies comprising 1.56% followed by 29 cases (1.38%) in 2014 out of 2100, and 22 cases (1.22%) in 2013 out of the total 1800 medicolegal autopsies. It signifies an annual increase in the number of cut throat injuries following death. In total we observed 87 cases of cut throat injuries out of the total 6200 medicolegal autopsies comprising 1.38% . Similar Indian study shows 36 cases of cut throat injuries out of the total 6710 medicolegal autopsies comprising 0.53% of the total [16].

Males (61 cases) were the main victims which outnumbered the femalesi.e 26 cases out of the total 87 cases of cut throat injuries. The most affected age group for both sexes was 21-30 years i.e in 40 cases (45.97%) followed by 41-50 years (15 cases/17.24%), 11-20 years (14 cases/16.09%), 31-40 years (9 cases/10.34%), 0-10 years (5 cases/5.74%) and >50 years 4 cases accounting for 4.59% of the total 87 cases . Similar Indian study demonstrates almost the similar results which shows 27 victims were male (75%) and 9 were female (25%) out of the total 36 cases of cut throat injuries. In case of male the significantly affected age group was 21-30 years i.e 11 cases followed by the age group 31-40 years i.e 8 cases, 11-20 years i.e 3 cases, 41-50 years &>50 years group 2 cases each and 0-10 years .e only 1 case. And in case of

female the mostly affected age group was 31-40 years i.e 3 cases followed by 11-20 & 21-30 years group 2 cases each and 41-50 & >50 years group 1 case each and from the age group 0-10 years there was no such case of cut throat injury [16].

Homicides i.e 73 cases (83.90%) were the commonest manner of death followed by suicide 12 cases (13.79%) and accidental 2 cases comprising 2.29% of the total. Similar Indian study reveals the same i.e 32 homicidal cases followed by 2 cases of suicidal and accidental each out of the total 36 cases of cut throat injuries [16].

We found 41 cases of sharp force injury (47.12%) followed by 16 cases of blunt force injury (18.39%), 7 cases of firearm injury (8.04%) and 3 cases of toxic injury (3.44%) as associated injury out of the total 87 cases of cut throat injuries. In total we had 67 cases (77.01%) where associated injuries were found along with the cut throat injuries. Similar study was done in India which shows 19 cases were of sharp force injury, 9 cases were blunt force and only 1 case was toxic injury out of the total 36 cases of cut throat injuries [16].

Haemorrhage was the commonest cause of death i.e in 45 cases (51.72%) followed by asphyxia due to aspiration of blood in 22 cases (25.28%), other cases (Firearm injuries/Stab injuries/Chop injuries) in 15 cases (17.24%) and air embolism in 5 cases comprising 5.74% of the total. Similar Jamaican study revealed haemorrhage was the cause of death in 34 cases (49.95%) followed by asphyxia due to aspiration of blood in 27 cases (36.49%), other causes (firearm injuries, stab/chop wounds) in 10 cases (13.51%) and air embolism in 3 cases accounting for 4.05% of the total 74 cases of cut throat injuries [17].

Fields/farms were the most common place of occurrence i.e in 45 cases (51.72%) followed by working place in 12 cases (13.79%), public places in 9 cases (10.34%), outside house in 8 cases (9.19%), home in 7 cases (8.04%), and confined room in 6 cases comprising 6.89% of the total. Similar Jamaican study reveals most of the cases occurred in fields/farms i.e in 26 cases followed by home in 18 cases, public places in 12 cases, outside house in 8 cases, sea-side in 5 cases, working place in 3 cases and room in 2 cases [17].

Gang violence was the prime motivational factor i.e in 36 cases (41.37%) followed by relationship in 31 cases (35.63%), financial hardship in 11 cases (12.64%) domestic violence in 5 cases (5.74%) and robbery in 4 cases accounting for 4.59% of the total 87cases of cut throat injuries. Similar study was conducted in Jamaica which revealed gang violence was of 29 in number (39.19%) followed by relationship 24 cases (32.43%), domestic violence 14 cases (18.91%), robbery 4 cases (5.41%), financial hardship 2 cases and disease 1 case comprising 1.35% of the total 74 cases of cut throat injuries [17].

Butcher's knives were the most commonly used weapon i.e in 62 cases (71.26%) followed by kitchen knives in 17 cases (19.54%), axe in 6 cases (6.89%) and finally 2 cases comprising 2.29% of the total 87 cases. Similar Jamaican study revealed that the mostly used weapons were Machete i.e in 62 cases (83.78%) followed by meat cleaver in 8 cases (10.81%), and kitchen knives & axe 2 cases each comprising 2.7% of the total 74 cases of cut throat injuries [17].

Conclusion :

Though less reported, cut throat injuries causes death along with other unnatural causes here in Bangladesh. Recent trend also suggests the gradual annual increase in the number of cut throat injuries. Its causes are of different types. But political conflict, unemployment, poverty and relationship are considered as the motivational factors. The members of the Law enforcing authority should take proper steps so that no offender remains unpunished. It will later cut down the increased trend of cut throat injuries in the near future.

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Effect of hypothyroidism on the cardiovascular system: A review

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Abstract Background::
Increased or decreased function of thyroid hormone on the heart and vascular system causes cardiovascular derangements. Hypothyroidism is associated with impaired left ventricular (LV) diastolic function and subtle systolic dysfunction and an enhanced risk for atherosclerosis and myocardial infarction. Objective of this review was to make an update of knowledge about hypothyroidism and cardiovascular diseases. A systemic literature search of published articles relating to hypothyroidism and coronary heart disease (CHD) was conducted. Abstract, full-text, experimental studies and review articles that discussed thyroid function and its association with the development of coronary heart disease were included. The literature survey found that overt and subclinical hypothyroidism have profound effects on cardiac risk factors like pro-atherogenic lipids, c-reactive protein, homocystine and insulin resistance. These changes lead to the development of atherosclerosis, ischemic heart disease and impaired left ventricular function.

Key words: hypothyroidism, cardiovascular disease.

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Introduction

Thyroid hormone has physiological effects on the cardiovascular system.[1] Many symptoms and signs recognized in patients with overt hyporthyroidism and hypothyroidism are due to the increased or reduced action of thyroid hormones on the heart and the vascular system, respectively.
Thyroid hormone abnormalities also cause some hemodynamic derangements. In recent decades, it has emerged that subclinical thyroid dysfunction may affect the cardiovascular system, which may increase cardiovascular risk. It is becoming increasingly apparent that acute and chronic cardiovascular disease may alter thyroid hormone metabolism and contribute to cardiovascular impairment.[2] This article will provide a review of the effects of thyroid hormone in the development of coronary heart disease.

Rationale of the review

Ischemic heart disease (IHD) or Atherosclerotic coronary artery disease has become global health problem of 21st century because of its high prevalence and concomitant increase in risk of morbidity and premature death. Thyroid dysfunction, not only Overt thyroid hormone abnormality but even subclical abnormality of thyroid hormone, is also a strong indicator of risk for atherosclerosis and myocardial infarction. Many investigators have suggested that abnormal level of thyroid hormone may represent a cardiac risk factor. Therefore the present review was undertaken to find out the effect of hypothyroidism in development of cardiovascular diseases. The information obtained from this review may help physician in taking decision in clinical practice.

Methods

A systematic literature search of published articles in all languages on the association between thyroid dysfunction and coronary heart disease (CHD) was conducted. Abstract, full-text, experimental studies and review articles that discussed thyroid function and its association with the development of coronary heart disease were included.

Discussion

Physiological aspect of thyroid hormones:
The mature thyroid gland contains numerous follicles composed of thyroid follicular cells that surround secreted colloid, a proteinaceous fluid that contains large amounts of thyroglobulin, the protein precursor of thyroid hormones.[3] The thyroid hormones are regulated by hypothalamus-anterior pituitary-thyroid gland axis through a negative feedback mechanism. Hypothalamus secretes thyrotropin releasing hormone (TRH) which stimulates thyrotrope cells of the anterior pituitary gland to produce thyroid stimulating hormone (TSH). TSH stimulates thyroid hormone synthesis and secretion. Thyroid hormones feedback negatively to inhibit TRH and TSH production. So the serum level of TSH is a sensitive and specific marker of thyroid function. [3] Under the stimulation of TSH, the thyroid cells trap iodide to join with tyrosine molecules of thyroglobulin to make mostly T_4 and some T_3 which are stored in follicular colloid within the gland. They are then released together, or some T_4 is further deiodinated to T_3 before release. This step is also under the influence of TSH.[4] T_4 is secreted from the thyroid gland in at least 20-fold excess over T_3. Both hormones circulate bound to plasma proteins. The functions of serum-binding proteins are to increase the pool of circulating hormone, delay hormone clearance, and perhaps to modulate hormone delivery to selected tissue sites. Only the free hormone is biologically available to tissues. About 80% of T_4 is metabolised by deiodination, 35% to T_3 and 45% to reverse T_3 (rT_3). The remainder is inactivated mostly by glucuronidation in the liver and secretion into bile, or to a lesser extent by sulfonation and deiodination in the liver or kidney. [5]

Triiodothyronine (T_3), the biologically active thyroid hormone, enters into the cardiomyocyte through specific transport proteins located within the cell membrane. [6] Once in the cardiomyocyte, T_3 enters the nucleus, binds to thyroid hormones receptors (TRs) and interacts with accessory transcription factors. [1,3,7] This complex binds with specific transcriptional activators (nuclear receptor α-1) or repressors (nuclear receptor α-2) depending on the nature of the regulatory elements in the target gene that, in turn, by acting as cis- or trans-regulators, modify the rate of transcription of specific target genes. [1,3,7] These specific target genes encode both structural and functional proteins.[1,8] Among various proteins expressed by transcription, the most-extensively characterized proteins are myosin heavy chains and the sarcoplasmic reticulum protein involved in the regulation of intracellular calcium handling, namely, calcium activated ATPase and its inhibitory cofactor, phospholamban. [1,8-11]

The acute effects of thyroid dysfunction on the cardiovascular system are more readily detectable, the evidence on the long term effects of thyroid dysfunction on the heart and on the cardiovascular outcomes is less clear. For example, a 20-yr follow-up study of the original Whickham Survey[12] found no association between initial hypothyroidism, raised serum TSH levels, or antithyroid antibodies and the development of coronary artery disease.[12] However, the more recent Rotterdam Study[13] concluded that patients with subclinical hypothyroidism have a significantly increased prevalence of aortic atherosclerosis and myocardial infarctions. [13]

Hypothyroidism

In the present review 'Euthyroidism' was defined as a normal TSH concentration (0.45-4.50 mU/L), 'Subclinical hypothyroidism' was defined as a TSH concentration of more than 4.50 mU/L and less than 20 mU/L with a normal FT4 concentration and 'Overt hypothyroidism' was defined as a TSH level of 20 mU/L or more or a TSH concentration of more than 4.50 mU/L with an FT4 concentration level below normal (<0.7 ng/dL).[14]

Hypothyroidism is a common endocrine disorder resulting from deficiency of thyroid hormone. It is often the primary process in which the thyroid gland produces insufficient amounts of thyroid hormone. It can also be secondary, i.e., lack of thyroid hormone secretion due to the failure of either adequate thyrotropin (TSH) secretion from the pituitary gland or thyrotropin-releasing hormone (TRH) from the hypothalamus (secondary or tertiary hypothyroidism) found that the prevalence of hypothyroidism, diagnosed by history and blood analysis, was 2%[12,15] The mean age of diagnosis was 57 years, and the disease was ten-fold more common in women than in men. The disease is particularly prevalent in women older than 40 years of age. Hypothyroidism is prevalent in debilitated geriatric patients of both sexes. 15 Subclinical Hypothyroidism is common in the adult population, especially among women above 60 years of age. [16,17] Up to two thirds of patients have serum TSH between 5–10 mU/L and thyroid autoantibodies. [16,17] Almost half of these individuals may progress to overt thyroid failure. [12,18]

Hypothyroidism and the cardiovascular system:

The clinical presentation of overt hypothyroidism is not obvious and most patients have few symptoms and signs.[19] Bradycardia and systemic hypertension, with narrow pulse pressure and slightly increased mean arterial pressure, and some degree of exercise impairment are the most-common findings in patients with overt hypothyroidism. [19-21]

Hypothyroidism and arrhythmia

Many patients with overt hypothyroidism have abnormal standard ECG, including QT interval lengthening and flattening or inversion of the T wave, which reflects the prolonged cardiac action potential.[19,22,23] In addition, overt hypothyroid patients are more prone to develop ventricular arrhythmias, particularly in the presence of an underlying ischemic heart disease, due to increased electrical dispersion in the myocardium.[19,22] In general, resting heart rate and blood pressure are normal in SCH subjects. [24]

Hypothyroidism and dyslipidaemia

Elevated levels of total cholesterol, LDL cholesterol, and apolipoprotein B are well documented features of overt hypothyroidism. [25] Early studies in humans with hypothyroidism demonstrated a prolonged half-life of LDL cholesterol because of decreased catabolism, an effect that was reversible with T4 therapy.[26]

Early studies have also shown that hypothyroidism causes qualitative changes in circulating lipoproteins that increase their atherogenicity. Two studies have shown that LDL is more susceptible to oxidation in patients with hypothyroidism, with normalisation after restoration of the euthyroid state. [27,28]

In patients with subclinical hypothyroidism, the serum concentrations of total cholesterol, non-HDL-C, remnant-like particle cholesterol, and Apo B were significantly decreased, whereas no significant changes in the serum concentrations of low-density lipoprotein cholesterol, HDL-C, triglycerides, apolipoprotein A-I, and Lp(a) were observed. Additional potentially atherogenic effects of hypothyroidism on lipid metabolism include a reversible reduction in clearance of chylomicron remnants; reduced activity of cholesteryl ester transfer protein, which is involved in reverse cholesterol transport pathway and decreased activity of hepatic lipase and lipoprotein lipase.[29,30-32] Some, but not all, cross-sectional studies have demonstrated that serum levels of total cholesterol and LDL cholesterol are higher in patients with SCH than in euthyroid controls. Danese et al [33] in their meta-analysis of the effect of therapy for subclinical hypothyroidism on serum lipid levels demonstrated a mean reduction in the total cholesterol level of 0.2 mmol/L and in the LDL cholesterol level of 0.26 mmol/L. [33]

Hypothyroidism and homocysteine

Several studies have demonstrated elevated homocysteine levels in hypothyroidism, with improvement after T4 replacement. [28,34-38] This is likely to be caused by impaired renal homocysteine clearance, although an effect of thyroid hormone on enzymes involved in folate metabolism has also been proposed.[28,38,39] The magnitude of decline in homocysteine levels after T_4 treatment is sufficient to lower cardiovascular risk, with a decrease of 2–5 μmol/L when hypothyroid patients were treated with T_4 to a level suppressing the serum TSH concentration.[37,39] One study of patients with spontaneous hypothyroidism showed a decrease of 4.6 μmol/L on restoring the euthyroid state.[28] In contrast, there are now considerable data showing that subclinical hypothyroidism is not associated with hyperhomocysteinaemia. Three case control studies have reported no difference in homocysteine levels between individuals with subclinical hypothyroidism and euthyroid controls. Furthermore, Christ-Crain et al[36] found no significant change in homocysteine levels after treatment of subclinical hypothyroidism.[36,40,41]

Hypothyroidism and C-reactive protein (CRP)

C-reactive protein (CRP), another cardiovascular risk factor, has also been studied in relation to hypothyroidism. Christ-Crain et al. [36] measured CRP in 61 overtly hypothyroid and 63 subclinically hypothyroid patients and compared them with 40 euthyroid control subjects. CRP levels were significantly higher in both hypothyroid groups, compared with controls. However, CRP levels did not decrease with T_4 treatment of the subclinically hypothyroid patients.

Hypothyroidism and insulin resistance

Bakker et al. [42] postulated that relatively lower thyroid hormone levels might amplify the increased cardiovascular risk associated with insulin resistance.[42] Their study did confirm that insulin resistant subjects with high normal TSH levels had higher LDL cholesterol concentrations, whereas among insulin-sensitive individuals, TSH concentration was not associated with any difference in LDL level.

Hypothyroidism and atherosclerosis

An autopsy finding of diffuse atherosclerosis in a 58-yr old woman was published to William Ord's classical description of the syndrome of myxoedema.[43] Vanhaelst et al.[44] found a greater prevalence and severity of coronary atherosclerosis in the hypothyroid patients.[44] Steinberg[45] in 1968 found that women with myxoedema had more severe coronary artery disease on autopsy than did age matched women without myxoedema.[45] The association between hypothyroidism and atherosclerosis has also been shown in living patients. A study of patients undergoing coronary angiography demonstrated that those who had inadequate therapy for hypothyroidism were more likely to have angiographic progression of coronary artery disease than those with adequate replacement. 46 In a hospital-based study, men and women with a TSH level of 4.0 mU/L or greater had higher prevalence of coronary artery disease than age matched controls (48% vs. 38% for men and 37% vs. 20% for women), although this was statistically significant only for women.[47] Conflicting data exist regarding the effect of hypothyroidism on coagulation.

Both increased and decreased platelet adhesiveness have been reported in hypothyroidism.[45,49] The degree of hypothyroidism may determine its ultimate effects on coagulation parameters. [50] These suggest a greater risk for thrombosis, which could precipitate myocardial infarction, in moderate hypothyroidism, and a bleeding tendency in severe hypothyroidism.[51] Whether SCH is an independent risk factor for cardiovascular disease is controversial.[14] Recently, a strong association between SCH and atherosclerotic cardiovascular disease, independent of the traditional risk factors (i.e., hypercholesterolemia, hypertension, smoking, diabetes mellitus), was noted in a large cross-sectional survey of postmenopausal women (the Rotterdam Study).[14]

Hypothyroidism and hypertension

The prevalence of systemic hypertension is nearly three-fold higher in patients with overt hyperthyroidism than in euthyroid subjects.[52,53] Two factors contribute to systemic hypertension in overt hypothyroidism. The first, and certainly the most-widely recognized, is the remarkable increase in peripheral vascular resistance. 19 The second, and more recently documented, is the increase in arterial stiffness, which likely results from myxedema of the arterial wall.[54,55] In general, systemic hypertension associated with overt hypothyroidism is poorly controlled by conventional treatments, whereas it promptly improves with achievement of euthyroidism.[54] This finding would encourage the routine assessment of thyroid function in all patients with preexisting systemic hypertension that becomes resistant to pharmacological treatment.[56] Several changes in metabolic and organ function indexes have been reported in most clinical investigations of patients with persistent SH.[75] Significant hypofunctional abnormalities in the parasympathetic nervous system and an increased prevalence of systemic hypertension have been reported in patients with SCH.[21]

Hypothyroidism and LV function

The most-consistent cardiac abnormality recognized in patients with overt hypothyroidism is impairment of LV diastolic function, which is characterized by slowed myocardial relaxation and impaired early ventricular filling. [57,58] LV systolic function usually is only marginally subnormal, as demonstrated by slightly reduced values of ejection fraction and stroke volume filling.[57,58] On the one hand, the reduced cardiac preload, in combination with bradycardia and slightly depressed myocardial contractility, accounts for a subnormal cardiac output in overt hypothyroidism. [57,58] On the other hand, the lower cardiac performance and the abnormalities in peripheral and proximal vascular function may contribute to the poor exercise tolerance in overt hypothyroidism. [20]

Conclusion

The present review revealed that though there is controversy, overt and subclinical hypothyroidism have profound effects on cardiac risk factors like pro-atherogenic lipids, C-reactive protein, homocystine and insulin resistance. These changes in cardiac risk factors lead to atherosclerosis, ischaemic heart disease and impairement of left ventricular function.

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Thoraco-Omphalopagus Conjoined twin- A case report

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Abstract Background::
Conjoined twins joined in utero. An extremely rare phenomenon, the occurrence is estimated to range from 1 in 50,000/ per births to 1 in 2,00,000 births[1], with a somewhat higher incidence in south-east Asia and Africa. Nearly half are still born, and an additional one-third die within 24 hours. Most life births are female, with a ratio of 3:1. Most stillbirths are male. Two contradictory theories exist to explain the origins of conjoined twins. The more generally accepted theory is fission, in which the fertilized egg splits partially. The other theory, no longer believed to be the basis of conjoined twining, is fusion, in which a fertilized egg completely separates but stem cells (which search for similar cells) find like-stem cells on the other twin and fuse the twins together. Conjoined twins share a single common chorion, placenta and amniotic sac, although these characteristics are not exclusive to conjoined twins as there are some monozygotic but non-conjoined twins who also share these structures in utero

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Introduction

Conjoined twins represent one of the rarest form of twin pregnancy. The occurrence is estimated roughly 1 in every 200 identical twin pregnancies and are always identical. The incidence ranges from 1 in 50000 to 1 in 1,00,000 birth,!. As the situation carries high risk , early diagnosis and management of delivery is very much important. Ultrasonography in early pregnancy has important role to diagnose such a case.
Monozygotic twinning is a rare event that occurs due to fission of the fertilized ovum at the earliest stages of embryogenesis[2]. Monozygotic twinning includes a spectrum of syndromes whose features depend on the time of fission. Depending on the timing twinning will result in two separate embryos, and the fetal sacs may be either dichorionic– diamniotic, monochorionic or monochorionic– monochorionic. Late or incomplete splitting leads to conjoined twinning, which the embryonic disk has already formed[2,2]
It is well established that congenital anomalies are found more frequently in monozygotic twinning than in singleton pregnancies[4,5] .

The anoalies are of different types: some are related to the twinning process itself, other are due to vascular factors, and a few are structural malformations not exclusively found in twins but observed more frequently in monozygotic twins[2,5,6]. The frequency of congenital malformations increases when the twinning is late; therefore, we expect to see malformations more frequency in conjoined twins[5]
This is a description of conjoined twins of thoraco-omphalopagus type.

Case

25 years old women second gravida with history of one caesarean section was referred for a routine obstetrical examination at 27 weeks gestation. She has no family of multiple pregnancy. Sonographic examination revealed a conjoined twin gestation. Both fetuses seemed to be connected along the chest and abdomen (figure-1). Two fetal heads were seen. Two upper limbs two lower limbs each were detected, but single body was there. Large irregular single heart was detected sonologically. The diagnosis of conjoined (thoraco-omphalopagus) twin

The parents were informed about the diagnosis. By knowing the exact condition of the fetus, they wanted to terminate the pregnancy. Caesarean section was done as the patient had a pervious history of caesarean section. Alive male twins were delivered having two heads, two upper and two lower limbs each, facing each other. They were connected from chest to abdomen. Single umbilical cord and placenta were found. The infants were born with apgar score of two at one minute and two at five minutes also. They died half an hour after birth. Mother was treated with antibiotics and pain killer accordingly. Her post operative period was uneventful.

Thoraco-omphalopagus Conjoined Twins

Discussion

Pathogenesis

Conjoined twins are thought to occur when the process of monozygotic twining takes place at the later stages of early embryogenesis or is incomplete[3]. The incidence of congenital malformation is significantly increased in monozygotic twining as compared to dizygotic twining[4,5]. For this reason, it has been postulated that the same etiological factors could be responsible for both monozygotic twining and congenital malformation[3]. The malformations occurring in conjoined twins are often more severe and rather major, such as the body wall defect which was present in these twins.

Spectrum of severity

Conjoined twins vary widely. In some cases, two well developed fetuses exist attached only by a minor superficial connection. In others only a small part of body is duplicated or amorphous masses of tissue are found attached to an otherwise normal fetus.

Timing and forms of twining

If twining is determined at or before the morula stage, two complete embryos with two amniotic and two chorionic sacs will develop. When twining occurs at the early inner cell mass stages (blastocyst) before differentiation of the embryonic disc, two completely separate embryos would be expected, each surrounded by an amniotic sac and associated with a single chorion.

Types

When the joned twins are each fairly complete, fusion may be anterior (thoracopagus or ziphopagus), posterior (pygopagus), cephalic (craniopagus), caudal (ischiopagus) or abdominal (omphalopagus). When doubling is less complete and only parts of the bodies are duplicated, the attachment is often lateral. If the division extends from above downwards, there may be two heads and four arms. If the division extends from below upwards, it can produce three or four legs. The spine thorax and pelvis show varying degrees of duplication directly related to the number of extremities. In symmetrical double twins (except the rare xiphopagus that has only the lower portion of sternum fused) some of the viscera are shared by the two individuals[7]. The prevalence of congenital heart disease in thoracopagus twins is high and they are usually stillborn or die within 24 hours.

Diagnosis and obstetrical management

Ultrasonographic evaluation is indicated for all pregnant women carrying more than a single fetus to rule out the possibility of conjoined twins, Koontz and coworkers[8] have summarized the sonographic finding associated with conjoined twins. These includes:

The lack of separating membrane (all conjoined twins are monoamniotic; therefore, an interamniotic membrane cannot be identified).

The inability to separate the fetal bodies.

The presence of other anomalies.

The presence of 3 or more vessels in the umbilical cord.

Fetal heads persistently at the same level.

A dorsiflexed cervical spine.

A narrow space between the lower cervical and upper spine.

No apparent change in fetal position after maternal manipulation.

If the diagnosis is not certain, other imaging techniques can be considered-including plain radiography or amniography. In this case MRI was done for further evaluation and the result was same.

When the diagnosis is made before the twins are viable, the option of pregnancy termination should be offered to the parents. After viability, serial examinations are indicated to monitor fetal growth, to detect the development of hydrops, and to reveal fetal demise. A scheduled delivery in a tertiary care center is ideal so that procedures required to evaluate the twins can be carried out shortly after birth. The type of delivery is determined by the size of the twins, the nature of their fusion, the possibility of their survival, and parental wishes.

After birth, evaluation of both twins should be conducted to assess the extent of organ system sharing. To this end, plain and contrasted radiography, echocardiography, angiography, ultrasonography, and CT scans have been employed. Further management is based on the type of conjunction and the presence of associated anomalies.

The prognosis for conjoined twins is generally poor. Roughly 40 % of conjoined twins are stillborn, and approximately 35% die within the first day of life[9]. In stillborn conjoined twins, males predominate. Survival depends on the type of conjunction and the presence of associated anomalies. Only 60% of surgically treated conjoined twins survive[1].

Surgical Management:

Preperative diagnostic studies include radiographic examination of all systems – especially the urinary, reproductive and gastrointestinal systems. This may involve use of plain x-ray films, echocardiography, cystourethrograms, lower gastrointestinal tract studies, CT scans and MRI scans.

Surgical separation may be attempted in certain cases depending on extent of fusion and in particular of visceral fusion. Surgery should be delayed for at least 3 to 6 months to allow the twins to stabilize and grow. A review of all attempted surgical separations of conjoined twins as of 1987 revealed the following mortality rates: thoracopagus, 29%; omphalopagus, 70%; craniopagus, 33%; ischiopagus, 74%; and pygopagus, 56%.

Conclusion:

Conjoined twins are associated with a high perinatal morbidity and mortality; therefore making and early diagnosis with ultrasonographic examination of conjoined twin give the parents a chance to elect pregnancy termination.

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