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Rise of HDL level minimize the coronary injury

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Ischemic heart disease is now a leading cause of morbidity and mortality in developed as well as developing countries[1]. It is generally accepted that atherosclerosis is the basis of this disease. The blood supply being thus mechanically reduced. The pathogenesis of atherosclerosis is a multifaceted problem. A disturbance of rapid metabolism is almost certainly implicated [2].

Ischemic heart disease is defined as the cardiac disability acute or, chronic arising from reduction or arrest of blood supply to the myocardium in association with the disease processes in the coronary arterial system.[3]

It is also regarded no ischemic necrosis of an area of myocardium occurring as a result of a critical imbalance between the coronary blood supply and myocardial demand.[4]

According to WHO definition and quoted by (Assmann 1982) atherosclerosis is a variable combination of changes in the intima of arteries consisting of a focal accumulation of lipids, complex carbohydrates, blood and blood products, fibrous tissue and calcium deposits and associated with changes in media.[5,6,7]

Serum lipids their various components and cholesterol play very important role in the development of coronary atherosclerosis[6]. Lipporpotein fraction are considered for coronary atherogenesity.

Epidemiological studies of Rhodes, Gulbrandsen and Khagon (1976) have evaluated the importance of individual lipoprotein in predicting future clicnical coronary heart diseases where LDL have significant possible correlation and HDL have negative correlation.

1978 Ienkins, Herper and Neslil observed that total plasma cholesterol, LDL and combind effect of LDL, VLDL and triglyceride showed direct significant correlation with Coronary atherosclerosis but the concentration of HDL showed a strong inverse association.

Zambogenia, Lawria, Manubans and Lawria in 1980 found that more than 50% occlusive coronary diseases was improved progressively after rising the HDL level those patients.

Several studies have shown that higher level of HDL able to decrease atherogenicity progressively. [8,9,10,11,12]

It was also proved that atherogenic factors gradually lowered with rise of HDL.[10,11,12]

In 1986 Ross R updated the knowledge about atherogenecity that LDL is very injurious to coronary vessels and fortunately rising of HDL significantly lower LDL with this pathogenesis.

Assman in 1982 described HDL (density: 1.063-1.21 gm/dl) contain 50% lipid and 50% proteins are produced by the intestine and liver in plasma capable of taking up cholesterol. LDL from cells and transporting back to the liver. The HDL sub fractions HDL_1 (d= 1.055-1.085 gm/ml), HDL_2 (d= 1.063-1.15 gm/ml) ande HDL_3 (1.15-1.21 gm/ml) are differentiated on the basis of varying composition as well as structural and functional properties. According to Assman 1982, HDL cholesterol is called good cholesterol because far from killer LDL, they actually play vital role in preventing coronary heart disease. They seen to act like biological vacuum cleaness sucking up excess cholesterol from the blood stream. Higher level of HDL are associated with a lower risk of heart diasease.[14] (American association);[15] (Ballatyne CM).

Individual who have naturally higher levels of HDL are at lower risk of heart attacks. To increase HDL, exercise, quitting smoking or improving diet are very necessary and fruitful step.

HDL levels are typically lower in people who have metabolic syndrome a cluster of conditions that include obesity, increased blood pressure and high blood sugar levels.

Increasing HDL levels, 60 minutes of moderate intensity aerobic exercise a week are very effective.

HDL levels are improved by drugs used to lower LDL and triglyceride levels, such as niacin, fibrates and statin.

High levels of HDL cholesterol at least 40 gm/dl in men and 50 gm/dl for women appear to reduce heart disease. HDL removes cholesterol from plaque in blood vessels and delivers it to the liver for excretion. No HDL enhancing drugs have been approved by the FDA. But there some dietary and life style changes that can help.

1. Get physically active. Anything that raises your heart rate like walking, jogging or swimming also raises HDL. The American heart association recommend 30 minutes a day of moderate activity five days a week.
2. Eat better fats. Monounsaturated and polyunsaturated

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fat s like olive or, canola oils can raise HDL level without increasing total cholesterol.

3. Cut out Tran's fats. Listed on food labels as "partially hydrogenated vegetable oil" Trans fats are common in processed foods. They can increase LDL (bad) cholesterol and decrease HDL.
4. Lose weight. Being overweight increases LDL and reduces HDL. Losing even a few pounds will increase your HDL and lower LDL and blood pressure.
5. Stop smoking. Smoking decrease HDL levels and stopping smoking may increase them.
6. Use of statin. This class of drugs works in the liver to prevent the formation of cholesterol, thus lowering amount of cholesterol circulating in the blood. Statins are most effective at the lowering LDL cholesterol (bad) but also modest effects on lowering triglycerides and raising HDL (good) cholesterol.

Exports believe HDL acts as scavenger carrying LDL cholesterol away from the arteries and back to the liver, where it is broken down and passed from the body one fourth to one third of blood cholesterol is carried by HDL. A healthy level of HDL cholesterol may also protect against heart attack and coronary injuries whole low level of HDL cholesterol have been shown to increase the rise of heart disease.[16,17,18,19]

Overall, this may concluded that raising of HDL cholesterol able to minimize the coronary risk of injury.

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Total serum level of T_3, T_4 and TSH in male school going children of Rangpur District

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Abstract:
Background: iodine deficiency is a global public health problem. At least two billion people in the world were suffering from inadequate iodine intake, of which two hundred eighty five million was school going children. Measurement of thyroid hormones in rural and urban school going children may give an idea about thyroid status of our male children and also helps to develop awareness about prevention of thyroid disorders.
Objectives: *This study was carried out to assess T_3, T_4, and TSH in urban and rural male school going children who apparently look euthyroid without any visible goiter. Subclinical hypothyroid state if found will be helpful in taking preventive measures*
Study design*: Cross sectional study*
Place & period: this study was carried out in the department of physiology, Rangpur Medical College, from 1st July 2007 to 30th June 2008.
Method: *Study was conducted on a total number of hundred school going children, both girls and boys age ranging from 10 to 15 years. From these 26 are urban male and 20 are rural male children*
Group A (n=26) = urban male school going children
Group B (n=20) = rural male school going children
Sampling method- random cluster sampling method
Results: *though the serum T_3,T_4, & TSH level are within normal physiological limit but there is significant difference between urban & rural male children.*
Conclusion: *from the present study it may be concluded that low thyroid status in male children is due to less iodine intake.*
Key words: *serum T_3, T_4, TSH, iodized salt*

Introduction:

Iodine is required for normal thyroid activity. There are increased thyroid activities during rapid growing periods of puberty. Low iodine intake has wide range of adverse effects on health in this period[1]. These effects are manifested by goiter, decreased serum thyroid hormones, increased serum thyroid stimulating hormone of the children[2].

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Iodine deficiency disorders are widely prevalent in a chronic environmental iodine deficient region. In chronic iodine deficient areas, apparently normal school going children attain a lower mental and psychomotor level, an affect potentially grave consequences for adult life[3].

Bangladesh as a whole is an iodine deficient country. The total goiter rate in Bangladesh was 47% (grade 1 and grade 2) and cause of goiter was insufficient iodine intake in 69% of total goiter population. Children and women are more affected than men[10]. In Bangladesh, national surveys (1996) had estimated that the prevalence of goiter in school-going children was 50% and only 44% of households were consuming iodized salt[11,9]

The present study was aimed at evaluation of thyroid status in growing children who apparently look euthyroid without any visible goiter. Subclinical hypothyroid state if found among apparently normal children will be helpful in

taking preventive measures. So that in futures the children born in iodine deficient areas will always be at part in all respects with the children of the nongoitrous region.

Bangladesh is a developing country, majority of the people live in the rural area. They are ignorant about thyroid disorders. So this study will be helpful to assess the thyroid status of male school-going children as well as to adapt appropriate measure to prevent this deficient condition that may contribute in building a wise nation.

Materials and Methods:

This cross sectional study was carried out in the Department of Physiology, Rangpur Medical College, between July 2007 and June 2008. Study was conducted on a total number of hundred school going children, both girls and boys age ranging from 10 to 15 years. From these 26 are urban male and 20 are rural male children

Group A (n=26) = urban male school going children

Group B (n=20) = rural male school going children

Sampling method- by random cluster sampling method

All the children of both groups had the residents of different areas of Rangpur district. Children with any other diseases were excluded from the study.

List of school in urban and rural area was collected, numbering was done. Then from these schools, selection of school was done by using random table. From the numbers of student, lottery was done.

After selection, all the subjects were asked to attend the department of Physiology, Rangpur Medical College. History of intake of iodized salt was taken. All children enrolled for the study were asked to bring a teaspoon of salt which was tested for iodine content by the rapid iodine spot test. The change in colour of the salt after the addition of a drop of starch solution was matched with the colour given on the test kit.

Data Analysis method: All data were recorded systematically in a preformed history sheet and all statistical analysis was done by using the soft were SPSS 12.0 for Windows. Comparisons of serum T_3, T_4, TSH between two groups were done by unpaired t-test. P values <0.05 were considered significant.

Laboratory facilities: Centre for Nuclear Medicine and Ultrasound, Rangpur.

Collection of blood and sample processing: 5 ml of venous blood was collected from ante-cubital vein of each subject with all aseptic precautions by a disposable syringe. Test tubes were kept in slanting position till formation of clot. Serum was separated by centrifuging the blood at 3000 rpm for 5 minutes. The clear supernatant serum was taken and kept in one screw-capped dry clear vial and was preserved for estimation of serum thyroid hormones and serum thyroid stimulating hormone at -20°C. All the tests were carried out as early as possible.

Laboratory Investigation: Bio-chemical analysis of serum were carried out for the estimation of-

1. Serum thyroxine by Radioimmunoassay (RIA).
2. Serum triiodothyronine by Radioimmunoassay (RIA).
3. Serum thyroid stimulating hormone by Immunoradiometric assay (IRMA) in the laboratory of Center for Nuclear Medicine and ultrasound, Rangpur, Bangladesh.

Results:

T_3 (triiodothyronin)

The mean ± SE of T_3 in the urban and rural male school going children were 1.55 ± 0.04806 and 1.16 ± 0.03845 respectively. There was significant difference between the two groups ($P < 0.01$).

T_4 (thyroxin)

The mean ± SE of T_4 in the urban and rural male school going children were 95.6923 ± 2.78223 and 78.50 ± 2.97401 respectively. There was significant difference between the two groups ($P < 0.001$).

TSH

The mean ± SE of TSH in the urban and rural male school going children were 2.28 ± 0.07596 and 3.3215 ± 0.13107 respectively. The mean serum TSH level of rural school-going children was significantly higher than the urban school-going children ($P < 0.001$).

Table - Mean ± SE of serum T_3, T_4, TSH level (nmol/L) in urban and rural male school-going children

Groups	Serum T_3 level	Serum T_4 level	Serum TSH level
A (Urban) (n= 26)	1.55 ± 0.04806	95.69 ± 2.78223	2.28 ± 0.07596
B (Rural) (n= 20)	1.16 ± 0.03845	78.50 ± 2.97401	3.32 ± 0.13107

Statistical analysis

	"t" value	P value
T_3	6.19	$P < 0.01^{*}$
T_4	4.185	$P < 0.001^{**}$
TSH	7.218	$P < 0.001^{**}$

Discussion:

The present study was undertaken to compare the serum T_4, T_3, TSH levels in urban and rural male school-going children in Rangpur district. Children of growing age have increased iodine demand. They are particularly vulnerable to less iodine intake. The rural area in this study is a flood prone area and it is in the northern part of Bangladesh.

From the present study it is difficult to draw any direct conclusion regarding etiology of such condition but from indirect

evidence as discussed earlier it may be concluded that sub-clinical hypothyroidism is common in rural school-going children who could be due to less iodine intake from food and limited consumption of iodized salt. These results are similar to those of others[10.11.12.13] who reported high goiter prevalence in rural children was due to inadequate iodized salt consumption.

Some observed high TSH level in rural children due to iodine deficiency[14]. Some others also observed high TSH level in rural children in spite of USI program[15]. They concluded that high TSH level in rural children was due to intake of natural goitrogens.

In rural male children serum T_4 and T_3 levels were significantly lower than the urban children ($P < 0.001$). These lower levels of thyroid hormones may be the cause of increased serum TSH level in rural children and these lower thyroid hormones levels may be due to decreased iodine in the serum of these children. The causes of this sub clinical hypothyroidism may be due to iodine deficiency.

Results of salt analysis for iodine content reveals that 40% of the population in the studied area was consuming non-iodized salt while 60% of the population was consuming iodized salt. Further analysis showed that 40 % consuming salt contain iodine. Higher percentage of household consuming non-iodized salt could be due to higher price of iodized salt with low purchasing power of the people in study area. This result is similar to those of others[16].

Summary and conclusion:

In light of above discussions, it may be concluded that lower levels of serum T_3 and serum T_4 in rural male school-going children in this study may be due to less iodine intake. They also give the history of taking goitrogenic substances like cabbage, cauliflower as main vegetables. Use fullness of iodine in the development of normal physio-psychological function is not well informed to rural people where the study was conducted. Again economical constrain also play a pivotal role for consumption of non-iodized salt by the rural people. So, the role and importance of iodine in the physio-psychological development should be published more vigorously in mass media for better awareness. Iodized cooking salt may be supplied to such a goiter prone area at a subsidized rate to improve the sub clinical goiter prevalence. Use of iodized salt is encouraged to overcome the situation observed in the group studied.

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Original Article

A Comparative study of facial anthropometry between adult male Santhal's and Bengalis in Bangladesh

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Abstract:
The physical appearance is very important in the personal identification of any individual or races. Though the individual are externally seems too alike, but they have different measurement of different bodystructure. The trait changes in varying degrees during development and in normal health and disease condition. The craniofacial anthropometry is the science in which the dimensions of the head and faces are measured. This morphometricstudies not only play an important role in distinguishing pure races, it also important in facial plastic and reconstructive surgery. TheSanthal's, our study subject living in northwest zone of Bangladesh are usually recognized as an ethnic groups, because they have separatelanguage, identity and their physical appearance isdistinctive to some extent. The descriptive, observational and cross sectional study was conducted with the intention to stabiles a ethnic specific anthropometric data for the Santhal'spopulation in Bangladesh, carried out in anatomy department of Rangpur Medical college, during the season of July-2011 to June 2012. 100 adult male Santhal's and 100 adult male Bengalis, residing nearest, age between 25to 45 years, same socioeconomic status were the subjects of this study. The facial dimension namely the morphological face height and maximum facial breadth were measured using sliding caliper and spreading caliper, but the facial index was calculated. The mean and SD of the variables individually compared between Santhal's and Bengalis and with the other ethnic groups. Statistically there was no significant difference found in morphological face height (p=0.908) and maximum facial breadth (p=0.856). According to facial index Santhal's were mostly mesoprosopic(44%) but the Bengalis wereleptoprosopic (32%).
Key words: *Anthropometry, Morphological face height, Maximum facial breadth, Facial Index.*

Introduction:

Variation in deferent morphological character is one of the most important phenomena occurring in human and that is attributed to many factors. The dimensions of the human body are affected by ecological, biological, geographical, racial, gender and age factor[1]

A hall mark of diversity and individuality of the people encountered in daily life is the ranges of variationin the shape of their faces. The face is an important region of human body, because a person can easily be identified by observing this area. Craniofacial dimensions may be determined by a single gene, gene groups or environmental factor[2].However facial proportion changes with age and according to sex in any given races owing to variation in skeletal dimension and muscle development. Anthropometry often viewedas a traditional and perhaps the basic toolof biological or physical anthropology is a series of systematizes measuring technique that expresses quantitatively the dimension of the human body[3]. Studies on Craniofacial relation and variation's in man have long been used to differentiatevarious racial groups in physical anthropometry. Thus the facial anthropometric studies provide the basis for a comparisonamong deferent races and also assist in understanding the frequency distributions of human morphologies[4]

The Santhal's are known as one of the oldest and largest indigenous communities in the northwestern belt of Bangladesh. They are largely seen in the northern distinct of Dinagpur, Rangpur, Naogon, Thakurgon and Panchagar[5]. They are the third largest ethnic community in India[6].

The face of the Santhal's are round and softly contoured, the chick bones are moderately prominent, eyes full and straight, nose broad and depressed, mouth large and lips full, hair straight black and coarse[5]. Their speaking language is Santhal's that belongs to Austro-Asiatic a subfamily of the Austric family[6]. Records on cephalometry of Santhal's tribal population is very scanty

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especially measurement like facial profile. Also there is no comparative facial study between Santhal's and Bengalis in Bangladesh, so the present study thus attempted to document the facial anthropometric measurement and facial indices of the Santhal's population and to assess the type of faces and also to assess their facialmeasurement in relation to the Bengalis and to determine their status in relation to other population studied elsewhere. It will be useful and essential tool to the researcher, clinician and forensic experts in respect to their field of study.

Methods:

The study was descriptive, observation and cross sectional in nature with some analytical component carried out in Anatomy department of Rangpur Medical College in the season of July-2011 to June-2012. The study subjects consisted of 100 adult male Santhal's and 100 adult male Bengalis, age between 25 to 45 years residing at different location of Mithapukur and Badarganj of RangpurDistrict andParbalipur, Nawabgong and Birampur of Dinajpur district. Most of them were illiterate so their date of birth was recorded from national identify card. Age was calculated by subtracting the date of birth from the date of data collections[6]. The history of congenital facial anomaly, major craniofacial trauma, orthodontic treatment, the facial reconstructive surgery that might affect the measurement were excluded from the study.

The taken measurement were the morphological face height (nasion-gnathion)and maximum facial breadth (zygion-zygion) were measured by physical procedure and the facial index was calculated as a percentage of the morphological face height to maximum facial breadth[7]. The photographs were taken to each subjects for their personal identify and for keeping records. The face was than classified according to the facial index and compared to each other and with the other ethnic groups describe elsewhere[7].

Procedure of measuring the variable By using sliding caliper and spreading caliper the physical measurement were taken at a fixed time between 9am to 5pm to eliminate the discrepancies due to diurnal variation[8]. All the measurements were taken twice to minimize measurement error and were recorded in the data sheet with the help of volunteer. The final value that was used in the study was average of the two obtained value[9].

Data Processing and analysis

After data collection, their frequency distributions, central tendency and dispersions were determined and results were prepared in terms of frequency distribution, ranges, mean and standard deviation using SPSS version 13.0. Unpaired t-test was done to compare the mean value with each other and with the other ethnic groups.

Results:

In case of morphological face height statistically there was no significant difference between Santhal's and Bengalis (P=0.908) asthe morphological face height was the sum of upper and lower face height.

Fig 3.1a and b showed that the distribution of both groups were more or less equal in each type and highest percentage of population belongs to the very high typeof morphological face height(45% Santhal's and 43% Bengalis).In maximum facial breadth there was also no significant difference between Santhal's and Bengalis (P=0.856). Fig 3.2 a and b showedthat the distribution of both groups were equal in each type and highest percentage of population belongs to the wide type of maximum facial breadth (53% both Santhal'sand Bengalis).

Both Santhal's and Bengalis were classified according to the facial index[10], the Santhal's were mostly mesoprosopic (44%), but the Bengalis were leptoprosopic (32%) (Fig.3.3).

Table 3.1 Distribution of the subjects by facial measurements

Variables	Subjects		p value (pd0.05) *
	Santhal's (n=100)	Bengalis (n=100)	
Morphological face height (n-gn) (cm)	11.83±0.45 (11.1-12.8)	11.84±0.53 (10.3-12.9)	0.908
Maximum facial breadth (zy-zy) (cm)	13.70±0.46 (12.7-15.0)	13.71±.0.47 (12.7-14.8)	0.856
Facial index	86.36±3.8 (76.55-96.90)	86.50±.4.5 (73.46-96.27)	0.816

*p values reached from unpaired t test were found to be significant at 5% level

Results are shown as mean ±SDs and ranges.

n=100 in each groups

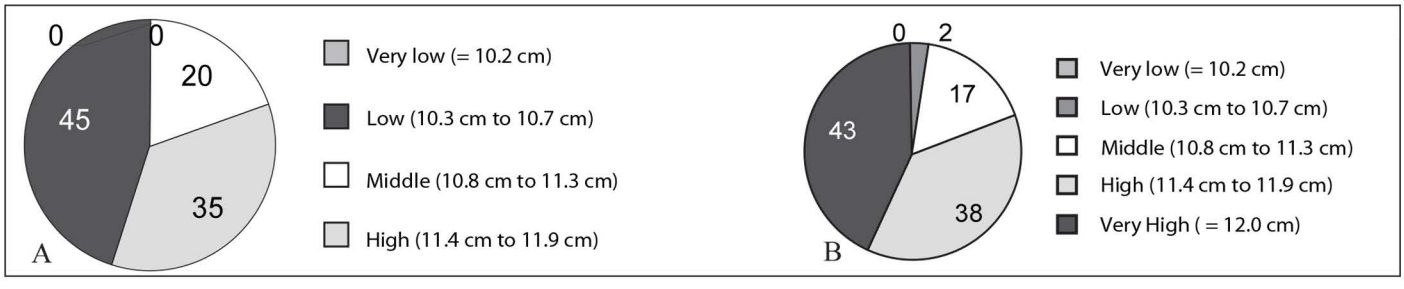

Fig. 3.1 Pie diagram showing percentage frequencies of different types of morphological face height. The values within parentheses represent morphological face height in thetheSanthal's(a) and Bengalis.(a)

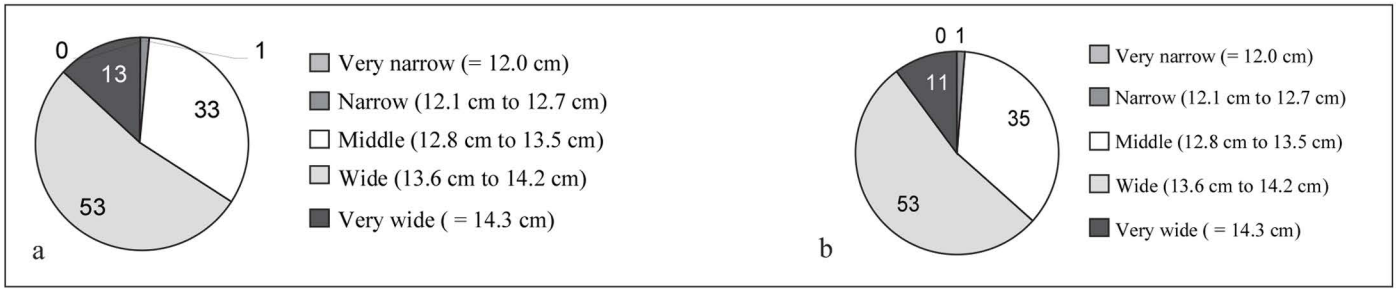

Fig. 3.2Pie diagram showing percentage frequencies of different types of maximum facial breadth. The values within parentheses represent maximum facial breadth in theSanthal's (a) and Bengalis (b).

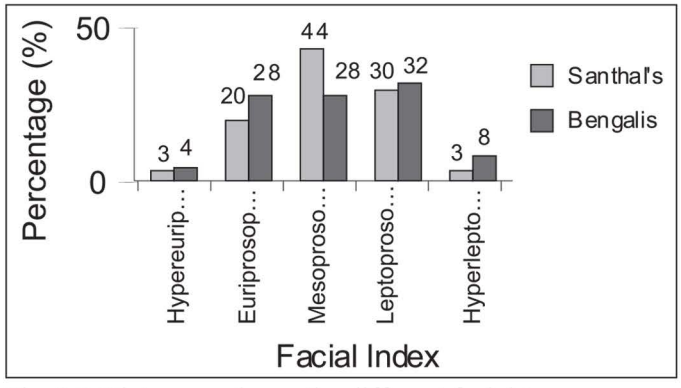

Fig. 3.3 Histogram shows the different facial types.

Discussion

Discussion on selected facial variables

The finding of the present study regarding the facial variables were compared between the Santhal's (11.83±0.45) and the Bengalis (11.84±0.53) and with the findings of various author studied on various ethnic groups. TheSanthal'sare proto-Australoid on the basis of anthropological origin[11], but the Bengalis are Australoidtype[12].

In case ofmorphological face height 45% of Santhal,s and 43% of Bengalis were in the very high type of morphological face height, followed by high type (35% Santhal's and 38% Bengalis) (Fig 3.1 a and b). The morphological face height ofSanthal's and Bengalis of Bangladesh showed almost similar value. According to classification both groups were in very high type of morphological face height[10]. Similar very high type ofmorphological face height were found in Bulgarian[13], Italian[13], Russian[13], Singaporean Chinese[13], Thai[13], Croatian[13], Portuguese[13], Iranian[13], Turkis[14], Afro American[13], Vietnamese[13], Japanese[13], Azerbaijan[13], Latvian[13], Greek[13], Zulu[13], North American white[13] andTurkish[13].

In case of maximum facial breadth also there were no significant differences between the Santhal's and Bengalis. According to classification[10], both Santhal's and Bengalis were in the wide type of maximum facial breadth, this was followed by middle type (33% Santhal's and 35% Bengalis) (Fig 3.2 a and b). The similar wide type of maximum facial breadth were found in Malaysian Indian[15] (3)North American white[13] Santhal's, West Bengal[6] Iranian13, Afro American[13], Bulgarian[13], Angolan[13], Egyptian[13], Turkish[13], Croatian$_{13}$, Karkar, New Guinea[16], Russian[13], Hungarian[13] and Polish[13].

In the present study, according to the facial index(Fig 3.3).The adult male Bangladeshi Santhal's were mesoprosopic or medium broad face (44%) followed by leptoprosopic or narrow face (30%) and euriprosopic or broad face (20%). But the Bengalis were leptoprosopic or narrow face (32%) then mesoprosopic or medium broad face and euriprosopic (each type 28%). Also there were some peoples of both groups who belong to the extreme broad or hypereuriprosopic type and extreme narrow or hyperleptoprosopictype.Similarmesoprosopic face was found in White American[17]MalaysianIndian,Malaysia[15], Croatia[4], Turkmen Iran[1] Fars Iran[1]the males of Croatian belong to Caucasoid race, Grbesa (2007) reported that they have mesoprosopic or medium broad face. Also Jahanshahi et al. (2008) reported that Turkmen and Fars males of Iran belong to mesoprosopic or medium face (globular). In addition Cakirer et al. (2001) studied on White and Afro-American male and categorized them asmesoprosopic and leptoprosopic. Thus it may be concluded that besides genetic, racial and ethnical factors, geographical factors can affect the form of the face. That's why the people of different racial groups show similarities, while the people of similar racial groups show variation in facial form. The study may be helpful for anatomist, anthropologist, nutritionist, physician and forensic department. The data can provide the basic future framework for estimating the standard of the facial dimensions.

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Outcome of Occlusion Therapy as A Treatment of Refractive Amblyopia In School Childern

Ripon Kumar Sarker[1], Utpal Kumar Kundu[2], Md Yousuf Ali[3]

Abstract:
Background: *Amblyopia is the commonest vision defect in children, resulting in abnormal sight in one or both eyes. The conditions are sometimes called 'lazy eye'. The condition affects as many as 'one to five' percent of children but the rate is different in various part of the world. There are ma e improvement of visual acuity after occlusion therapy as a treatment of amblyopia in school children of 5-11 years.* ***Methods:*** *This was a cross sectional study. Study included 2000 school children age 5-11 years from which amblyopic children was screened out. Finally 50 amblyopic patients selected for farther study of management by occlusion.* ***Result:*** *Two thousands school children examined. 58 children were found amblyopic in which 30 male and 28 female. Prevalence of amblyopia was 2.9%.Visual improvement in unilateral amblyopia studied under occlusion therapy was 90% in age group 5-8 years and was 85.71% in 9-11 years age group. Improvement in bilateral cases in age group 5-8 years and in age group 9-11 years under occlusion therapy was 90% and 83.33% respectively.* ***Conclusion:*** *Nearly all amblyopic visual loss is preventable or reversible with timely detection and appropriate intervention. Most cases were unilateral and developed before the age of 5 years. In our Country there is no effective screening system to detect amblyopia and prompt effective treatment which contribute to the tragedy of visual loss due to amblyopia.*

Key words: *Amblyopia, Occlusion therapy, Refractive error.*

Introduction:

Amblyopia is the commonest vision defect in children, resulting in abnormal sight in one or both eyes. The conditions are sometimes called 'lazy eye'. The condition affects as many as 'one to five' percent of children but the rate is different in various part of the world.[1] The disorder is caused by any condition that sends the brain abnormal or unequal visual input during infancy or childhood. These conditions can include an imbalance in the positioning of the eyes, such as strabismus, in which the eyes are crossed inward (esotropia) or turned out ward (exotropia). Amblyopia also can result from a major difference in refractive error between the two eyes, such as myopia, hypermetropia or astigmatism. Less common causes of amblyopia are cornea and lens diseases and injury to the eye of a young child.[2, 3-9]

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A diagnosis of amblyopia is made when a patient has subnormal distance visual acuity despite refractive correction with spectacle or contact lenses and when no ophthalmoscope organic cause can be detected. For all practical purpose a visual acuity difference of minimum two snellen's line is diagnosed amblyopia by most of the ophthalmologist.

Amblyopia has been subdivided in terms of the major disorders that may be responsible for its occurrence. They are stimulus deprivation amblyopia, strabismic amblyopia and anisometropic amblyopia.[10] It has been commonly thought that the best time to correct amblyopia was during infancy or early childhood before the eyes and the entire visual system including the brain, have fully matured.[11]

Amblyopia is responsible for more unilaterally reduced vision of childhood onset than all other caused combined. This fact is particularly distressing because in principle, nearly all amblyopic visual loss is preventable or reversible with timely detection and appropriate intervention. In our country there is no effective screening

system to detect amblyopia and prompt effective treatment. Illiteracy, luck of awareness, limited availability of ophthalmic care, personal and limited health funds all these contribute to the tragedy of visual loss due to amblyopia.

This study is to find out the effectiveness of occlusion therapy in amblyopic school children between 5-11 years old.

Materials And Method :

This cross sectional study was conducted at Rangpur Medical College, Rangpur and four primary schools (Two urban, Two rural) of Rangpur District from 15th April, 2012 to 15th October, 2012 for the period of six month. Primary school children aged 5 to 11 years and best corrected visual acuity 6/12 or less or two lines difference in V/A between the eyes was included in this study. Children below age of 5 years and above 11 years, presence of anterior and posterior segment pathology e.g corneal opacity, cataract, pathological myopia etc as well as patients with presence of strabismus and patients with prior history of amblyopic treatment were excluded from the study. Four primary schools (Two urban, two rural) were selected and got the permission from the teachers and local authority. The guardians of the students were informed to attend the school on the day of examination by the school authority. All the children in the schools visited were included in the study. Detail history taking and ocular examination was performed in all cases. Visual acuity was measured by the linear Snellen chart at a 20' foot testing distance, and cover test conducted with the child fixating both near and distant targets. The suspected amblyopic children underwent a detailed anterior and posterior segments evaluation by slit lamp biomicroscopy & stereoscopic evaluation of the macula, direct and indirect ophthalmoscopy of both eyes done at referred hospital. Refraction with cycloplegia by 1% cyclopentolate was done in every patient. After refraction spectacle prescription was given to every patient.

Amblyopia therapy :

In amblyopic patients, occlusion therapy was given for 4 to 10 hours per day according to severity, during the waking hours. Every patient was advised for maximum use of the amblyopic eye by watching TV/Computer games, studying books or drawing color pictures as appropriate for the patient. **Follow-up:** 4 weekly intervals for six months. In each follow up visual acuity was measured. Occlusion was carried out for 6 months or until no further improvement was found. Occlusion therapy was end as patient's visual acuity is stable for 2 consecutive visits.

Observation And Results

Two thousands school children examined. Of them 1034 were male and 966 were female. In which 58 (2.9%) children were amblyopic. Among the amblyopic students, 30 (51.72%) male and 28 (48.28%) female. There were 40(68.97%) unilateral and 18(31.03%) bilateral cases. Total 50 patients finally enrolled for the study of amblyopia management. Among them 26 male and 24 female students. There were 34 (68%) unilateral and 16(32%) bilateral amblyopia cases. In the age group 5 - 8 years there were 20 unilateral and 10 bilateral amblyopia and in the age group of 9-11 years 14 were unilateral and 6 were bilateral cases.

Table-1: Percentage of amblyopia according to sex, age of 5-11 years.

Boys			Girls			Total		
No. of student	No. of amblyopia	%	No. of student	No. of amblyopia	%	No. of student	No. of amblyopia	%
1034	30	2.9%	966	28	2.89%	2000	58	2.9%

Total 2000 school students were examined out of which 58 were amblyopic. So the prevalence is 2.9%.

Table-2: Distribution of screened out amblyopia according to laterality.

Laterality	Total number	Percentage	Total
Unilateral	40	68.97%	58(100%)
Bilateral	18	31.03%	

In the total 58 amblyopic students, 40 were Unilateral and 18 were bilateral. So, unilateral amblyopia is much more common than bilateral amblyopia.

Table-3: Distribution of studied amblyopic patients according to sex and laterality (n-50).

Laterality	Boys		Girls		Total 50 pt.
	Total No.	%	Total No.	%	
Unilateral	18	69.23%	16	66.67%	34(68%)
Bilateral	8	30.77%	8	33.33%	16(32%)

Unilateral cases are more in number. Boys and girls were almost equally affected.

Table-4: Visual outcome in unilateral amblyopia age 5-8 years received occlusion therapy (n-20).

Outcome	Number of Patient	Percentage
6/6	9	45%
6/9	9	45%
No Improvement	2	10%

Observation: 20 patients age 5-8 years of unilateral amblyopia was studied there was 6/6 V/A improvement in 9 patients. V/A improved to 6/9 in 9 patients, 2 patients were still amblyopic.

Table-5: Visual outcome in unilateral amblyopia age 9-11 years received occlusion therapy (n-14).

Outcome	Number of Patient	Percentage
6/6	5	35.71%
6/9	7	50%
No Improvement	2	14.29%
Total	14	100%

Observation: 14 patients age 9-11 years of unilateral amblyopia was studied.There was 6/6 V/A improvement in 5 patients. V/A improved to 6/9 in 7 patients, 2 patients were still amblyopic.

Table-6: Visual outcome in bilateral amblyopia age 5-8 years received occlusion therapy (n-14) (Eyes-20)

Outcome	Number of eyes	Percentage
6/6	5	25%
6/9	12	60%
No Improvement	3	15%
Total	20	100%

Observation: 20 eyes of 10 patients age5-8 years of bilateral amblyopia was studied.There was 6/6 V/A improvement in 5 eyes. V/A improved to 6/9 in 12eyes, 3 eyes were still amblyopic.

Table-7: Visual outcome in bilateral amblyopia age 9-11 years received occlusion therapy (n-6) (Eyes-12)

Outcome	Number of eyes	Percentage
6/6	4	33.33%
6/9	6	50%
No Improvement	2	16.67%
Total	12	100%

Observation: 12 eyes of 6 patients age9-11 years of bilateral amblyopia was studied.There was 6/6 V/A improvement in 4 eyes. V/A improved to 6/9 in 6 eyes, 2 eyes were still amblyopic.

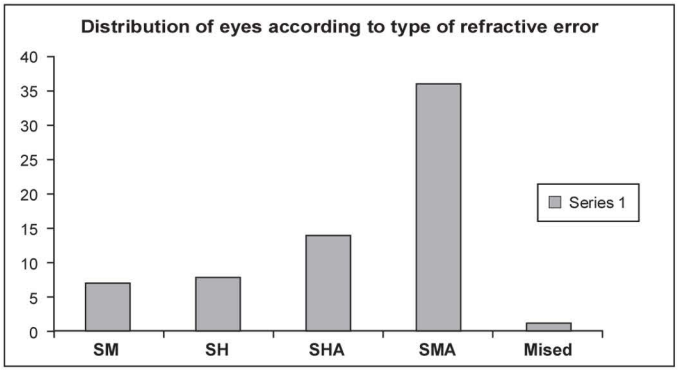

Fig - 1: Patients with astigmatism were highest in number

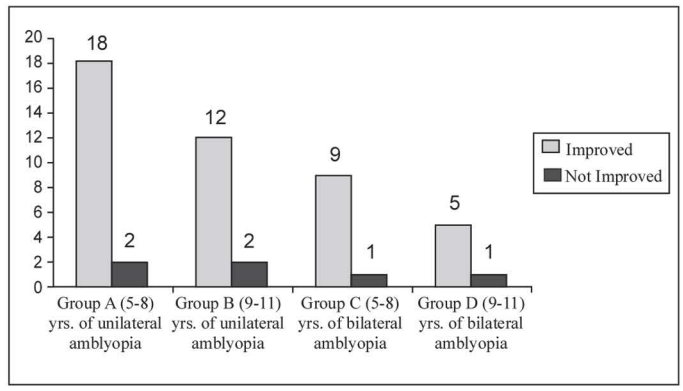

Fig-2: Improvement of visual acuity in different age group expressed in number .

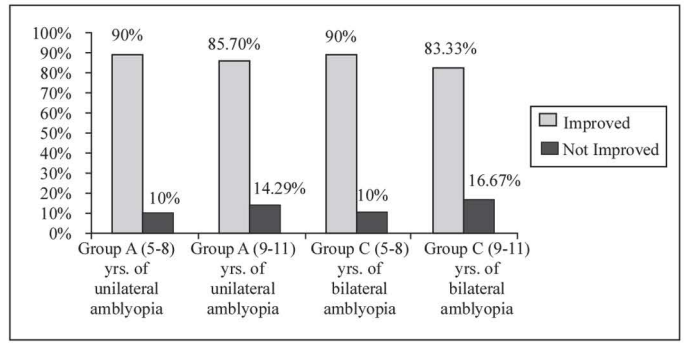

Fig-3: Improvement of visual acuity in different age group expressed in percentage

Discusson:

In this study 2000 school children age 5-11 years were taken. Out of them 1034 were boys and 966 were girls. After final evaluation we find out 58 numbers amblyopic patients due to refractive errors. This number showed a rate of 2.9%. The prevalence rate is differing in different countries. Matsuo toshihik[1] showed the prevalence of strabismus and amblyopia in Japanise elementary school children is 1-5%. Brar GS[12] in a prospective study showed the prevalence of amblyopia in Indian children was 2-4% which is near to this study.

Among the amblyopic students there were 40 (68.97%) unilateral cases and 18 (31.03%) bilateral cases. Boys and girls were almost equal in number.

Consecutive 6 month follow up these patients examined 4 weeks interval. The improvement of V/A after occlusion therapy in the age group 5-8 years and 9-11 years was 90.8% and 90.0% respectively. The visual improvement of bilateral amblyopia in the age group 5-8 years was 89.5% and in the age group 9-11 years was 87%.

Myopic (with or without astigmatism) patients had better visual outcome then the hypermetropic astigmatic cases (52% versus 25% visual outcome of 6/18 or better).

All bilateral amblyopia cases showed better final visual outcome in comparison to unilateral amblyopia.

As regards complication of treatment, there were no occlusion amblyopia was find out. Also, there was no case of reversal of amblyopia on stopping the occlusion amblyopia therapy.

Narendran K et al[7] in a retrospective study examined the outcome of occlusion therapy in 51 children below the age of 12 years with 88.9% showing an improvement by 2 Snellen lines. Also, 80% of patients of Ching et al[13] achieved 6/9 or better vision and 83% of patients of Kustschka et al[14] obtained similar final visual outcome. These results were near about similar with our study.

Age is a strong factor for good outcome and of recovery of amblyopic patients. Flynn and Cassedy[15] demonstrate a decreasing percentage of successful result with increasing age. These results justify this study, where visual outcome is less in the older age group.

In the same time, this study shows that occlusion therapy for amblyopia in the older child should be instituted, and a good visual outcome may well be anticipated in a good percentage of cases.

Overall and perhaps remarkably so, greatest improvement in visual performance occurred during the pretreatment phase where management was spectacle use only rather than in the treatment phase of the trial where occlusion therapy had given.

Spontaneous improvement of V/A in bilateral amblyopia by spectacle correction have been reported in this study.

The greatest improvement in the visual function occurred within the first 4 to 5 visits (16-24 weeks), although certain subjects did show changes over a longer time interval.[16-17]

The main limitation of this study is the small number of patients in each age group and the substantial number of patients that were lost to follow up. Still the results are consistent with other studies. Lack of age- matched trial has also limited the results in this study. The study period was also too short to adequately address the complication of occlusion therapy, especially the issue of reversal of amblyopia after stopping occlusion which needs many months to years of regular follow up.

Conclusion & Recommendation:

A. Conclusion"

Though there is different limitation in this study like small sample size, lack of proper assessment of compliance issue etc. We find in this study that the incidence of amblyopia in our primary school children is remarkable. Amblyopia prevents an individual to pursue certain occupation. Early detection is the key factor of amblyopia management.

It can still be figured out from this study that occlusion therapy for amblyopia gives good result even in advanced childhood. Low vision due to anisometropic amblyopic up to 12 years could be improved with appropriate measure.

Counseling of the patients and their parents is very important for the compliance and success of the therapy.

B. **Recommendation:**

- Health visitors, School teachers, General practitioners, parents all contribute to management of amblyopia.
- Locally agreed arrangement for referral, assessment, treatment and monitoring of progress is needed to which all parties contribute.

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Conjunctival autografting in pterygium Surgery autologus fibrin glue versus sutures a prospective comparative study

Md. Masudul Haque[1]

Abstract:

Aim: *To compare the use of autologus fibrin glue versus sutures for fixating conjunctival autografts in patients undergo in pterygium excision.* ***Methods:*** *Fifty patients (50 eyes) with primary pterygium were randomised to undergo pterygium surgery using either autologus fibrin glue (25 eyes) or 10-0 nylon sutures (25 eyes) to attach the conjunctival autograft. The patients were followed up for 24 hours, 1 week, 4 weeks and 8 weeks, 12 weeks. Outcome measures were duration of surgery, adherence of graft and postoperative discomfort and local complications.* ***Results:*** *In the autologus fibrin glue group, the mean operation time was less than suture group. One patient in the autologus fibrin glue group had partial eversion of the flap in the first post-op day, it was sutured with 10-0 mono; Two patients in sutured group had F. body granuloma, which was disappeared after 8 weeks. Intensity of the postoperative watering, foreign-body sensation, were significantly lower in the autologus fibrin glue group than in the suture group Postoperative congestion was less in the autologus fibrin group Conclusion: The new method of using patient's own blood (autologus fibrin) as a glue in pterygium surgery with conjunctival auto grafting significantly reduces surgery time with successful adherence of the auto graft and improves postoperative patient comfort without economical burden on the patient.*

Key words: *Pterigium, Autograft, Fibrin glue.*

Introduction:

Pterygium is a degenerative condition of bulbar subconjunctival tissues which proliferate as vascularized granulation tissue to invade the cornea, Pterygium (derived from *pterygion*, ancient Greek for wing) is a common ocular disease seen mostly in tropical and subtropical areas[1,2,3,4,18]. Pterygium is an abnormal overgrowth of fibrovascular tissue arising from the subconjunctiva toward the cornea, almost always in the palpebral fissure and thought to be caused by increased light exposure, dust, dryness, heat and wind. Surgical excision is indicated in Extreme irritationtion, Diminished vision due to Astigmatism/ progression towards pupillary area, Restriction of eyeball movement, Cosmetic blemish. 0ld procedures like simple excision, excision followed by beta-irradiation, use of mitomycin C and 5 – Fluorouracil. has a high rate of recurrence ranging from 24% to 89%. For example possible complications of mitomycin C and beta-irradiation include aseptic necrosis of the sclera and cornea, cataract, persistent epithelial defects and visual loss[11,12,14,15].

Recently, with the popularity of conjunctival autograft the incidence of recurrence has been greatly reduced up to 5-12%. In this procedure conjunctival graft apposed by sutures, synthetic fibrin glue, and autologus fibrin as a glue (own blood). Therefore, a simple surgical procedure that can reduce the recurrence rate to an acceptable level with minimal complications and without the use of potentially toxic drugs or radiotherapy would be ideal for the management of pterygium. Recent reports favor the use of fibrin glue above sutures. The use of fibrin glue has been reported to improve comfort, decrease surgical time, reduce complications and recurrence rates. Suture-related complications include infection, prolonged operating time,

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postoperative discomfort, suture abscesses, buttonholes, and pyogenic granuloma which usually require a second surgery for removal and chronic inflammation, Plasma-derived fibrin glue has the potential risk of prion disease transmission and anaphylaxis in susceptible individuals[3,5,6,7,10,1416,19,20].

In this study, we compare and evaluate the safety and efficacy of sutureless glue free limbal conjunctival autograft and conventional sutured autograft for the management of primary pterygium.

Material and methods:

All preliminary Ophthalmological examination along with slit lamp examination was carried according to proforma Preliminary investigations (CBC, BSL, Routine urine, ECG) were done in each & every patient. The study sample was comprised of 50 eyes of 50 patients with primary pterygium. The patients complained of conjunctival injection, tearing, rapid growth with cosmetic concerns, and encroachment of the pupillary area threatening the visual axis or blurred vision from induced astigmatism (Fig. 1).

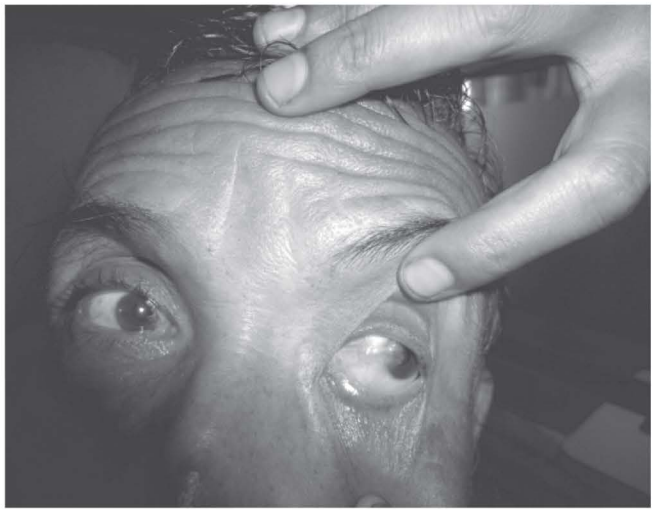

Figure 1: A case of pre-operative primary left nasal pterygium.

All patients underwent a comprehensive ophthalmologic examination including visual acuity, refraction, slit lamp biomicroscopy, measurement of intraocular pressure, extraocular muscle movements and dilated funduscopy.

The patients were randomly assigned into one of two groups: Group 1 underwent sutureless and autologus fibrin (own blood) as a glue (25 eyes) and group 2 underwent limbal conjunctival autograft with suturing, (25 eyes). The technique used in our study is simple randomization technique. The goals of pterygium surgery were to remove the pterygium, restore the conjunctival anatomy, leave the cornea as smooth and clear as possible, and prevent recurrence. Simple pterygium excision was performed under peribulbar anesthesia (Xylocaine 2%). After an eyelid speculum was inserted, pterygium head was separated from cornea by took's knife. and dissection of the body from the overlying conjunctiva in a smooth clear plane as possible using blunt and sharp dissection. Subsequently, the subconjuctival pterygium tissue and the thickened segment of conjunctiva and adjacent Tenoñs capsule were excised leaving bare sclera. Then the size of bare scleral was measured with calipers and the area documented in mm For harvesting the conjunctival autograft, the globe is rotated downwards with a forcep by assistant. The superior limbal bulbar conjunctiva was injected with 1 cc of local anesthesia (Xylocaine 2%) to facilitate separation of the conjunctiva from Tenon's capsule then, a marker was used to mark the four corners of the conjunctival limbal graft to be created 2 mm larger in width and length than the recipient bed. A small opening was created and careful blunt dissection with Wescott scissors was performed until the entire graft was free from Tenons reaching the limbus to include limbal stem cells that act as a barrier to the conjunctival cells migrating onto the corneal surface. Subsequently, the edges of the graft were cut by Vannas scissors. Forceps is used to gently slide the graft to the recipient bed with the epithelial side up and keeping the limbal edge toward the limbus.

In group 1, hemostasis was allowed to occur spontaneously without use of cautery to provide autologous fibrin (own blood) to glue the conjunctival autograft naturally in position without tension and the scleral bed was viewed through the transparent conjunctiva to ensure that residual bleeding did not lift the graft. Small central hemorrhages were tamponed with direct compression. The graft was held in position for 5-6 minutes by application of gentle pressure over the graft with fine non-toothed forceps. and ensure firm adherence to the sclera. The eye was bandaged for 24 h.

In group 2, the graft was sutured in position with 10/0 nylon by total four sutures. First the two limbal corners

were sutured into the episclera and then into the conjunctiva keeping the limbal edge of the graft on gentle stretch then the posterior corners of the graft were sutured to the bulbar conjunctiva Both groups received antibiotic ointment.

Post-operatively a pressure eye patch was applied. Analgesia was prescribed two times daily. After surgery, all patients were prescribed topical Dexamethasone and topical lomefloxacin 4 times daily for 3 weeks. All patients were examined on slit lamp 24 hrs, 1week, 8 weeks, and 12weeks postoperatively. The patients were instructed to avoid rubbing their eyes and avoid dust.

All patients were followed up after 24 h, after 1 week, after 3 weeks, and after 3 months. postoperatively. In follow up visits the following things were noted. foreign body (F.B) sensation and photophobia, hyperemia and chemosis, graft dehiscence, graft retraction, pyogenic granuloma, the duration of surgery and the recurrence.

The main postoperative outcomes noted were the recurrence rate which was defined as fibrovascular proliferation invading the cornea more than 1.5 mm at the site of previously excised pterygium, graft dehiscence, graft retraction and the gain in uncorrected visual acuity (UCVA). The secondary outcomes were duration of surgery, postoperative pain, foreign body sensation, photophobia, hyperemia, chemosis, overall satisfaction and the complications as, persistent epithelial defect, dellen, inclusion cyst, pyogenic granuloma, conjunctival edema, corneo-scleral necrosis, infective scleritis, keratitis and endophthalmitis.

Results:

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The pterygia were located nasally in all eyes for both groups. Patient age in both groups ranged from 21 to 56 years. There were 16 males and 34 females enrolled in this study. In 31 eyes, pterygia were present in the right eye and 19 in the left eye. Table 1 present the data for group 1 and group 2, respectively. There was no statistically difference in age between groups. The two groups were clinically similar regarding the size of the pterygium.

Table 1. Clinical data.

	Group 1 *N* **= (25 eyes)**	**Group 2** *N* **= (25 eyes)**
Range of age in (years)	21–53	21–56
Male	07	18
Female	09	16
Right	16	15
Left	09	10

Figure 2: A case of post-operative sutureless and glue free conjunctival limbal autograft in place.

Figure 3: A case of post-operative conventional sutured conjunctival limbal autograft by Nylon 10/0.

The mean operatiotion time was 16 ± 4 minutes in group 1 and mean opration time for group 2 was 22 ± 4 minutes. Duration time was less in group 1 than group 2.

The recurrence rate was 4% (1 eye) in group 1. and the recurrence occurred within 3 months. No cases of recurrence in group 2.The recurrence rate was 0% (No eyes) in group 2.

Congestion and postoperative discomfort is less in group 1. Mild to morderate Congestion was present in almost all patients. Only two patients had severe congestion. Cause was not found. All patients got better in one week with conservative treatment. Congestion and discomfort was more in group 2 patients. Almost all patients had morderate to severe congestion and discomfort. They got better after removal of suture in one week and with conservative treatment.

Graft dehiscence occurred in 8% (2 eyes) in group 1 and there were no cases of graft dehiscence in group 2. In one patient it may occurred following vigorous rubbing of the eyes on the day of operation. In other patient the cause was not found, may be unnoticed trauma. Both two patients were treated by reapposition and suturing the same graft with 10/0 nylon sutures in the 1st postoperative day.

Table 2: Showing postoperative main and secondary outcomes.

	Group 1 *N* **= (25 eyes)**	**Group 2** *N* **= (25 eyes)**
Operative time in minutes	16 ± 4 min	22 ± 4 min
Recurrence rate	1 (4%)	0 (0%)
Conjunctival Congestion & edema	4 (16%)	4 (16%)
Graft dehiscence	2 (8%)	0 (0%)
Early graft retraction	6 (12%)	6 (6%)
Conjunctival granuloma	0 (0%)	2 (8%)
Corneal scar (faint nebula)	2 (8%)	2 (8%)
Conjunctival cyst	0 (0%)	0 (0%)
Graft necrosis	0 (0%)	0 (0%)
Symblepharon	0 (0%)	0 (0%)
Scleral necrosis	0 (0%)	0 (0%)
Scleral thinning	0 (0%)	0 (0%)

Early graft retraction with exposure of scleral bed occurred in 4 eyes (16%) in group 1 and in 2 eyes (8%) in group 2 within the first postoperative week due to conjunctival edema and chemosis. All cases were resolved with conservative management.

Two cases (8%) were developed Conjunctival Foreign body granuloma in group 2. One resolved spontaneously in 2 months. And another one neded excision. There was no Foreign body granuloma in group 1.

The gain in uncorrected visual acuity (UCVA) occurred 3 months post operatively. Vision improved in 4 eyes (16%) were from group 1 and 2 eyes (8%) were in group 2. All cases with a gain in UCVA were due to clearance of visual axis occupied by pterygium pre-operatively.

Faint corneal scar (nebula) occurred in two eyes (8%) in group 1 and in 2 eyes (8%) in group 2.

There were no anesthetic complications, graft necrosis, symblepharon, scleral necrosis or thinning, excessive bleeding, globe perforation or injury to medial rectus in all of patient groups.

Discussion

Surgical techniques for the management of pterygium vary, but high recurrence rates after successful excision remain a challenge. The aim of pterygium surgery is to excise the pterygium and prevent its recurrence. The variety of techniques, range from the bare sclera procedure to more complex approaches, such as amniotic membrane transplantation and lamellar keratoplasty, including conjunctival autograft, and limbal conjunctival transplant, conjunctival flap, conjunctival rotation autograft surgery, and use of fibrin glue. Adjunctive therapies include Beta irradiation, Thiotepa, 5-Fluorouracil, Daunorubicin, and mitomycin C (MMC.Bare sclera excision (BSE) has an unacceptably high recurrence rate (40–60%) and has become obsolete. BSE with perioperative MMC, preoperative subconjunctival injection, intraoperative application and postoperative drops had yielded better outcomes, but the risk of complications has made this procedure less favorable. BSE with beta irradiation has resulted in encouraging outcomes (13% recurrence); however it has toxic and serious complications[2,11,12,15].

Pterygium excision with limbal conjunctival autograft has been reported to be more effective with low recurrence but it may compromise the corneal stem cell population. Additionally, adjunctive use of amniotic membrane graft results in low recurrence but costly. Fibrin glue has been used as an alternative to sutures for securing the conjunctival grafts. A study has reported recurrence rate of 5.3% for glue versus 13.5% for sutures and suggested that immediate adherence of the graft and lack of postoperative inflammation may inhibit fibroblast ingrowth and reduce

the recurrence. The main issue in using commercial fibrin glue, despite viral inactivation techniques, is the transmission of infectious agents such as parvovirus B19 (HPV B19) and prions Furthermore, anaphylactic reaction has been reported after the use of fibrin sealant which was due to bovine protein aprotinin. Fibrinogen compounds may be susceptible to inactivation by iodine preparations used for conjunctival disinfection before pterygium surgery[11,12,15]

In our study we compared the two techniques of sutureless and glue free conjunctival limbal autograft (group1) with the conventional sutured conjunctival limbal autograft (group2) in primary pterygium surgery.

The recurrence rate (4%) in group 1 was comparable to group 2 (0%). stated that the concept of surgical success in pterygium surgery can be defined as the provision of a white cosmetic conjunctiva, with no persistent symptoms and a low recurrence rate (less than 10%). The recurrence rate in our study agrees with the other reports of recurrence rate of 2.5% using a similar procedure of sutureless and glue free graft.

Graft dehiscence is a recognized complication of techniques using glue.It is reported 13.33% rate of graft dehiscence using autologous fibrin and attributed this to a low concentration of thrombin and fibrinogen in autologous glue compared to a commercial preparation. In our study graft dehiscence occurred in 2 eyes (8%) in group 1, and did not occur in group 2. The two cases in group 1, were due to either eye trauma, or a patient rubbing his eye vigorously and inclusion of tenons capsule with the graft. Hence, we instruct patients to use a protective shell and not to rub the eye in the 1st week post-operatively. Additionally, meticulous dissections of thin donor limbal conjunctival autograft free of Tenons capsule are mandatory for successful graft uptake.

Graft retraction was due to sub-conjuctival fibrosis and recommended meticulous dissection of sub-epithelial graft tissue. reported 20% of cases with graft retraction, in our study graft retraction occurred in 3 eyes out of 25 (12%) eyes in group 1 and 2 eyes out of 25 (8%) in group 2. All the cases of graft retraction were due to conjunctival chemosis and edema and were resolved with conservative treatment. It was also proposed that the apposition of the eye lids to the bulbar conjunctiva provides a natural biological dressing, compression, and a smooth frictionless surface.

F. Body granuloma occurred in 2 eye out of 25 (8%) eyes in group 2 and did not occur in group 1, These outcomes indicate that complications related to sutures are more common in group 2 despite using 10/0 nylon which induces minimal reaction and were removed after 1 week with some discomfort and foreign body sensation post-operatively.

Conjuctival edema occurred in our study in 4 eyes (16%) in group 1 and 2 eyes (8%) in group 2, using interrupted 10/0 nylon suture in group 2 which allows for any fluid build up to escape through the intervening spaces rather than precipitating a minimal reaction. Most of the cases resolved spontaneously with conservative treatment.

The mean operative time in group 1 was (16±4.0) min and (22±4.0) min in group 2. Using glue free sutureless autograft which reported average operative time of 17 min (range 14–20 min) and 21 min (range 18–24 min) in sutured group[3,5,6,7,10,14,19,20].

Our results confirmed significantly lower post-operative signs and symptoms including pain, FB sensation, photophobia, hyperemia and chemosis at all visits in the first post-operative month as well as significantly higher overall patient satisfaction in group 1 compared to group 2. None of our patients developed serious complications such as scleral necrosis, sclera thinning, graft necrosis, symblepharon, excessive bleeding, medial rectus muscle injury, or globe perforation.

Conclusion

The new method of using patient's own blood (autologus fibrin) as glue in pterygium surgery with conjunctival auto grafting significantly reduces surgery time with successful adherence of the auto graft and improves postoperative patient comfort without economical burden on the patient.

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Management of unhealthy cervix with nabothian cyst by taking biopsy with cauterization

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Abstract

Nabothian Cyst of Uterine Cervix is a benign, mucus-filled cyst that is present on the cervical wall. Cervical cauterization is a procedure that is used to destroy abnormal(noncancerous or precancerous) cells on the opening to the womb (cervix). A study was done among out patient in private practice and randomly 100 cases has selected .The study is done to get result of unhealthy cervix with nebothian cyst by giving treatment with biopsy taking followed by cauterization at Rangpur district in private practice. On histopathology reports 93% had chronic cervicitis, 4% koilocytic atypia, 3% chronic cervicitis with squasmous metaplasia.

Key words *: Nabothian cyst, Cervix.*

Introduction:

Nabothian Cyst of Uterine Cervix is a benign, mucus-filled cyst that is present on the cervical wall. It is common tumor found mostly in middle-aged and older women who have had multiple pregnancies

There are no clearly established risk factors for Nabothian Cyst of Uterine Cervix. It is caused when the endocervical glands are obstructed due to various reasons

Cervical Nabothian Cyst appears as single or multiple cysts on the surface of the cervical walls. No significant signs and symptoms or complications are generally noted; however, some women may present with abnormal vaginal (mucus) discharge

Treatment course includes close observation of the cystic tumor in asymptomatic cases and surgical management, if necessary. In general, the prognosis of Nabothian Cyst of Uterine Cervix is excellent with suitable treatment5.

Cervical cauterization is a procedure that is used to destroy abnormal(noncancerous or precancerous) cells on the opening to the womb (cervix).

It is carried out through the use of heat ,electricity, cold, corrosive chemicals or laser.The most common methods involve high frequency electric current(electro cougulation) or freezing (cryosurgery).

Indications:

1. Inflammation of cervix (cervicitis)
2. Liquid filled sacs (nabothian cysts)
3. Precancerous lesions on the cervix such as small areas of abnormal tissue (cervical dysplasia)

Actual cauterization destroys tissue by carbonization and retraction of cicatrical tissue that should be kept in mind.Electcoagulation with or without carbonization, gives a different result depending upon the depth of coagulation and degree of Carbonization.it must also be borne in mind that cauterization with actual thermocautery heats from the surface inward and must of necessity destroy the surface first before any appreciable heat penetration can take place.On the other hand by electrocoagulation maximum heating may take place in the deeper structures before the superficial structures become coagulated.recent literature on cauterization in cervicitis has established the efficacy of the method of treatment yet states that in areview of 500 case records , the following contraindication to cervical cauterization should kept in mind 1.where the disorders is one of several requiring operation. 2.slight inflammation without eversion or erosion. 3.single edeme 4. Those that do better on other treatment after trial of cautery.[4]

Methodology:

A study was done among out patient in private practice and randomly 100 cases has selected considering age,parity,mode of delivery,contraceptive history, chief complaints,clinical examination followed by biopsy taking and reports in 2 years duration(2014june-2016 june).Biopsy was taken from unhealthy cervix and cauterization with high frequency electric current was done by admitting the pt in clinics. Biopsy tissue was sent for histopathology report.Then follow up given upto complete recovery.

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Objectives:
The study is done to get result of unhealthy cervix with nebothian cyst by giving treatment with biopsy taking followed by cauterization at Rangpur district in private practice.

Results:
On the study 75% pt was within 20-29 yrs old ,19% within 30-39years and 6% 40-50 years old.80% pt had para2 only 3% had para more than 3.97% pt had normal vaginal delivery.95% pts had irregular oral contraceptive pill taking history.93% pt has given history of white discharge with lower abdominal pain with dyspaurenia.5% pt postcoital bleeding,2% back pain with lower abdominal pain.on clinical examination86% having infected nebothian cyst on cervix .7% having ulcer with engorged vessel on both lip of cervix,4% having cauliflower small growth on cx,3% having congested cervix with nebothian cyst.

On histopathology reports 93% had chronic cervicitis, 4% koilocytic atypia, 3% chronic cervicitis with squasmous metaplasia.

Prognosis:
Though I have not found any of my pt having recurrence of unhealthy cervix after doing electrocoagulation, According to MEDICAL DISABILITY ADVISOR electrocoagulation has high success rate and associated recurrence rate of 3% to 14%.

Discussion:
Nabothian cysts are a common gynaecological finding in women of reproductive age without clinical significance. They are multiple-opaque nodules (whitish to yellow) on the cervix, also called as mucinous retention cyst or epithelial cysts. It is caused by chronic inflammation of the uterine cervix. Nabothian cysts usually are small in size, it is quite rare to reach a size above 4 cm[1–3]. This paper shares a rare presentation of large nabothian cyst obstructing labour passage. .

Cervix mainly contains fibromuscular tissue that is covered with an epithelium either squamous or columnar. The glandular or columnar epithelium covers the endocervical canal and variably extend the ectocervix. This epithelium contains the single layer of mucin-secreting cells and invaginations of this epithelium make up endocervical glands. The border between the ectocervix (stratified squamous epithelium) and the endocervical canal (columnar epithelium) is called the squamo columnar junction (SCJ)[3]. There is a continuous process of repair in the SCJ. The inflammatory process may block an endocervical gland orifice and retention cysts occur[3].

Nabothian cysts are common, non-neoplastic findings, rarely of clinical significance and are thought to occur secondarily to healing process of chronic cervicitis. There is no need for treatment intervention unless the retention cyst is symptomatic or large enough with suspicion of malignancy. Ablation is usually sufficient. Thus to exclude malignancy, we excised it completely.

Histopathologically, nabothian cysts are lined by single layer of columnar epithelium or flattened epithelium without cellular mitosis or atypia as in our case. Huge nabothian cysts need a pathologic diagnosis to exclude other tumours of cervix and adenoma malignum that contains well-differentiated glandular cells with atypia and mitos. Histopathologically, 93% had chronic cervicitis ,4% koilocytic atypia, 3% chronic cervicitis with squasmous metaplasia.

the lesion shows a benign histological appearance and it contains well-differentiated mucinous glands, deeply invading the cervical stroma. Despite benign histopathologic findings, the clinical behaviour is aggressive. Thus, it is a diagnostic challenge and accurate diagnosis is important and depends on high suspicion of gynaecologist

Conclusions:
My study reveals only 1% had complication like cevical stenosis.Inspite of such complication cauterization with biopsy taking in unhealthy cervix with nebothian cyst has outstanding patients complaiance and recovery feed back.

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Tuberculosis of Skin

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Abstract:
In addition to chronic fever (evening rise of temperature), anorexia, weight loss and night sweats there are a number of different types of skin conditions due to tuberculosis. Right diagnosis of these skin conditions helps us to find tuberculosis somewhere else in the body. We should remember that the possibility of skin tuberculosis more when we see a chronic painless skin lesion. The tuberculin skin test is usually positive. Biopsy of skin lesion confirms the diagnosis.

Key words: *Tuberculosis and Tuberculin skin test.*

Introduction:

TB is a bacterial disease caused by Mycobacterium tuberculosis, (and occasionally by Mycobacterium bovis and Mycobacterium africanum). These organisms are also known as tubercle bacilli (they cause lesions called tubercles) or as acid fast bacilli (AFB). They are aerobic, non-spore-forming, non-motile bacilli. They have a waxy coat that stains red with acid-fast stains when examining sputum containing tubercle bacilli under the microscope. This is because they are acid-fast (they have kept the dye even after washing with acid and alcohol). Tubercle bacilli can remain dormant in tissues and may persist for many years even for life. The vast majority of populations without HIV infection who are infected with M. tuberculosis do not develop tuberculosis disease. One-third of the world's population has latent infection with Mycobacterium tuberculosis; 15 – 20 million people have active infection and 3 million deaths occur each year from tuberculosis (95% in the developing countries). Transmission of tuberculosis mainly occurs by droplet infection which may affect any part of the body but most commonly affects the lungs. Tuberculosis of skin is a form of extra-pulmonary TB.[1-3]

Tuberculosis in Bangladesh:
Tuberculosis is a major public health problem in Bangladesh. Bangladesh ranks sixth among the 22 high burden countries of TB globally. Estimates suggest that daily about 440 new TB cases and 176 TB deaths occur in the country. TB prevalence is (all cases) is 406 per 100,000 and the TB mortality is 47 deaths per 100,000. National TB control programme work for achieving at least 70% case detection and 85% treatment success of TB.[4, 5]

Cutaneous Tuberculosis, Types, Features, Diagnosis, Treatment and Prevention: [6-11]

Cutaneous tuberculosis is essentially an invasion of the skin by Mycobacterium tuberculosis. Several different types of cutaneous TB exist. Direct infection of the skin or mucous membranes from an outside source of mycobacteria results in an initial lesion called the tuberculous chancre. The chancres are firm shallow ulcers with a granular base. They appear about 2 – 4 weeks after mycobacteria enter through broken skin. The immune response of the patient and the virulence of the mycobacteria determine the type and severity of cutaneous TB.

Types of cutaneous tuberculosis:

1. **Erythema nodosum (Fig. – I)**: This is a type of hypersensitivity to tuberculin.
   - Tender, dusky red, slightly nodular lesions on the front of the leg.
   - 5 – 20 mm in diameter and with ill defined magins. They may run together to become confluent, usually above the ankles.
   - Recurrent crops of lesions may occur over the weeks.
   - Tuberculin skin test is very strongly positive.
   - Other causes of erythema nodosum include streptococcal infection, drugs, sarcoidosis, leprosy, histolpasmosis, coccidioidomycosis.

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Fig.-I: Erythema nodosum (Source-Derm Net NZ)

Fig.-II: TB verrucosa cutis (Source - DermNet NZ)

2. **TB verrucosa cutis (Fig. – II)**: Occurs after direct inoculation of TB into the skin in someone who has been previously infected with mycobacteria. They are particularly seen in health professionals.`
   - Purplish or brownish-red warty lesions on the exposed parts of the body.
   - Regional lymph nodes are not enlarged.
   - Lesions may persist for years but can clear up even without treatment.

3. **Lupus vulgaris (Fig. – III)**: Most common and variable type of cutaneous tuberculosis. This usually a very chronic disease and affects the head and neck. Commonly it occurs over the bridge of the nose and on to the cheeks. The diagnosis may be missed for many years.
   - Jelly-like nodules appear (apple-jelly nodules).
   - Some times ulcerate.
   - May cause extensive scarring and destruction of the face.
   - Tuberculin skin test is usually positive.
   - Sometimes develop skin cancer.

Fig. – III – Lupus vulgaris (Source - DermNet NZ)

4. **Scrofuloderma (Fig. IV):** This results from direct invasion and breakdown of the skin from an underlying tuberculous lesion, usually a lymph node – sometimes bones, joints or epididymis.
   - Often associated with TB lungs.
   - Sinuses usually develop and leave a scar when heal.
   - May heal without treatment after years.

Fig. – IV - Scrofuloderma (Source - DermNet NZ)

5. **Tuberculid (Fig.–V):** Usually in patients with moderate or high degree of immunity to TB because of previous infection.
   - Painful, slightly raised, bluish red local rounded thickenings of the skin **(Erythema induratum).**
   - Usually on the back of the calf.
   - Tuberculin skin test positive.

Fig. – V - Tuberculid (Source - DermNet NZ)

6. **Miliary lesions (Fig. – VI)**: More common in immunocompromised patients; may or may not associated with generalized miliary tuberculosis.
   - Multiple small copper coloured spots.
   - Multiple papules break down in the middle and form pustules.
   - Multiple subcutaneous abscesses on arms, legs, chest wall, buttocks or perianal region.
   - Prognosis is poor.

Fig. – VI – Miliary lesions (Source - DermNet NZ)

7. **Tuberculosis cutis orificialis**: Tubercular ulcers of mouth, nose and anus.
   - Ulcers are painful.
   - Usually in patients with advanced tuberculosis.
   - May be the presenting features of pulmonary or gastrointestinal tuberculosis.

8. **Inoculation tuberculosis (Fig. – VII)**: Accidentally inoculated. It is usually primary infection of the skin. Bacilli may enter the skin through a recent cut or abrasion.
   - Most often happens on exposed surfaces eg. face, leg below the knee or the foot.
   - Original cut or abrasion at first heals and then slowly breakdown to form a shallow ulcer **(Indolent ulcer).**

Fig.-VII - Inoculation tuberculosis (Source - DermNet NZ)

   - Regional lymph node slowly enlarges and may soften.

Diagnosis:
Diagnosis of skin tuberculosis is usually confirmed by skin biopsy.
Typical tubercles are caseating epitheloid granulomas that contain acid-fast bacilli. These are detected by tissue staining, culture and polymerase chain reaction (PCR).

Other tests that may be required include:
- Tuberculin skin test.
- Sputum for AFB and culture.
- Chest X-ray and other radiological tests for extrapulmobnary TB.
- Interferon gamma release assays (IGRA).

Treatment:
Combination of some antitubercular drugs – for several months and sometimes years.

DOTS – Directly Observed Treatment, Short course anti-tubercular chemotheraphy are -
1. Rifampicin – 10 mg/kg body wt/day – 6 month.

2. Isoniazid – 5 mg/kg body wt/day – 6 month.
3. Pyrazinamide – 25 mg/kg body wt/day – 2 month.
4. Ethambutol – 15 mg/kg body wt/day – 2 month.

Prevention:

The best way to prevent TB is to provide effective treatment to the infectious. This interrupts the chain of transmission. Good treatment programmes are the best prevention programmes. BCG vaccination, INH therapy for latent infection, mass education, early diagnosis and proper treatment may reduce TB infection and complication.

Conclusion:

Though skin tuberculosis is not very common but it frequently occurs in country with high prevalence of tuberculosis like Bangladesh. The diagnosis of skin tuberculosis is often missed. So we should carefully monitor a chronic painless skin lesion especially when it associated with fever, anorexia, weight loss, night sweats or positive tuberculin skin test. All skin lesions caused by TB bacilli do very well with anti-tuberculosis chemotherapy.

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Manuscript Preparation and Submission: Guidelines for Authors

Uniform Requirements for Manuscripts Submitted to RCMC Journal following the guideline of "International Committee of Medical Journal Editors" updated April 2010.

General Principles:

The text of observational and experimental articles is usually (but not necessarily) divided into the following sections: Introduction, Methods, Results, and Discussion. This so-called "IMRAD" structure which is a direct reflection of the process of scientific discovery. Long articles may need subheadings within some sections (especially Results and Discussion) to clarify their content. Other types of articles, such as case reports, reviews, and editorials, probably need to be formatted differently. Authors need to work closely with editors in developing or using such new publication formats and should submit supplementary electronic material for peer review.

Preparation of manuscripts:

Type manuscripts double-spaced in all portions, including the title page, abstract, text, acknowledgments, references, individual tables, and legends. Leave 1-inch margin on all sides with number in every page so that it is possible for editors and reviewers to edit the text line by line and add comments and queries directly on the copy. As a general rule, articles should not exceed 4000 words. Over-length manuscripts will not be accepted for publication.

Title page

The title page should have the following information:

1. Article title: Concise titles are easier to read than long, convoluted ones and should not exceeding 50 characters.
2. Authors' names, highest academic degree, affiliations, and complete address for correspondence including mailing address, telephone number and E-mail address.

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Structured abstracts are preferred for original research and systematic reviews. The abstract should provide the context or background for the study and should state the study's purpose, basic procedures (selection of study subjects or laboratory animals, observational and analytical methods), main findings (giving specific effect sizes and their statistical significance, if possible), principal conclusions, and funding sources in a running manner and not under separate headings with three to five key words for use as indexing terms. Do not cite references in the abstract. Be concise (250 words, maximum). Limit use of acronyms and abbreviations. Abbreviations must be defined at the first mention. Because abstracts are the only substantive portion of the article, and the only portion many readers read, authors need to be careful that they accurately reflect the content of the article.

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The following are typical main headings: Introduction, Materials and Methods, Results, Discussion and Conclusion.

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