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Editorial:

Dr Janardan V Bhatt MD, Medicine, MD & PhD physiology

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Abstract:

Pain is a blessing to man kind .By giving signal of pathology in body ,it has a protective and survival value. On the other hand pain is major cause of suffering to man kind. Significant number of people of all age group suffer from chronic pain including cancer pain. To day large number of measures single or in combination tried to reduce the quantity of pain but not completely or entirely. The ultimate pain is in mind and brain. We have just begin to learn the anatomy and physiology of

pain. Once more secrets of pain mechanisms are revealed we hope for complete relief chronic pain in man kind. Till today use of all available tools against pain ,cognitive behaviour therapy and learning to live with residual pain is answer to all chronic pain.

Is pain is blessing? Of course yes. It gives signal to brain and consciousness that there is some trauma, infection, cancer or some pathology in body . And as a result we search for cause of pain and while trying alleviate the cause we also remove pain also. Unfortunately pain does not give the clue of cause of pain. But it always possible to investigate and get to know the cause once we get the signal that there some pathology in body. And ultimately we can be free from pain and the cause of pain i.e. if one is suffering from acute abscess leading to severe pain ,once the abscess is drained person is free from pain.

There are some unfortunate people who are born without the ability to feel pain .This is a great evidence suggesting the functions and survival value of pain. Though many of these people sustain extensive burns, bruises and lacerations during childhood, and have difficulty learning to avoid inflicting serious wounds on themselves. Failure to feel pain after a ruptured appendix, which is usually accompanied by severe abdominal pain, led to near-death in one such man; another walked on a leg with a cracked bone until it broke completely. Similarly, a woman sustained numerous cuts and burns without feeling them, and her mouth was scarred from blisters as a result of drinking burning-hot liquids. Her daughter had the same condition and, aged seven, pressed her buttocks up against a grated bathroom heater after taking a bath, and resulting severe burn herself without feeling any pain. There such endless stories. To add to these there some acquired conditions where there is loss of pain sensation i.e. disorders and lesions of nerve to brain leading to loss of pain sensation and resulting neuropathic joints, ulcers, bedsores, loss of fingers and toes..and many other complications and suggesting that we should never think that the pain is a curse to man kind but it is a blessing and we survive because of pain..

Other hand Pain all agree that is a one of major cause of suffering to man kind. But never mind. you will be surprised or shocked if you will hear that suffering is a spiritual progress Believe or not but Dr Patrick Wall, Britain's most eminent pain researcher, once Quoted the statement of Pope John paul II i.e. what we express with the word suffering and pain it seems to be essentially particularly essential to the suffering nature of man sharing in the sufferings of Christ is at the same time ,suffering for the kingdom of God....Suffering contains, as it were, an appeal to Man's moral greatness and spiritual maturity. This indirectly reflex that as person matures spiritually ,his/her ability to suffer pain is increased. In many religions and cultures. this ability to withstand the pain is explored in the form of exhibition and this include piercing sharp cutting objects in various parts of body i.e. tongue ,skin ,throat, thorax, abdomen, limbs even walking on fires etc…

Pain is a message designed to inform the brain that some thing is wrong in body .Thus it has a survival value that WITH PAIN PERSON SEEK SOME MEDICAL HELP AND HEAL HIM/HERSELF. But simultaneously the pain mechanism is counterproductive also i.e. a caveman whose body parts are bitted by tiger and trying to fight or flight, the pain will make excessive aware of injury and severe pain will suppress the attempt for fight and flight.

Fortunately the nature has given in built pain-suppressing/ modulating system or pain inhibiting system which suppress the pain . Even and above body produce certain endogenous analgesic substances. As their properties are similar to morphine they are in group known as endorphins. They act on endogenous morphine receptors and produces analgesia ; very similar to morphine. In this context it is worth to consider Patrick wall and Ronald Melzack 'gate control theory of pain' i.e. by opening the gate awareness of pain can be heightened and vice verse. When the Gate is closed the awareness of pain is decreased i.e. by large diameter Type Ia nerve fibbers and descending pain inhibiting system.

So we have got a novel methods for analgesia i.e. trans cutaneous nerve stimulation where gate for pain is closed artificially by stimulating Ia fibers. Stimulation of descending pain inhibiting system also close the gate and we can artificially close the gate by placing electros in various parts our brain i.e periaquiductal grey matter, raphe magnae nucleus...

Although we have developed excellent new drugs for pains i.e. at receptor level ,we

have NSAIDs and paracetamol,at nerve level we have local anaesthetics, at spinal cord level we have TCNS, posterior column stimulation, counter irritants , massage, tracko and rizotomy, at cerebral level we have morphine and narcotic analgesics ,antidepressants and antiepileptic including electrical stimulation of brain areas and lastly for some complex regional pain syndromes sympathectomy . All this measures are used singe or in combination form .But all these measure always cannot alleviate pain completely. And still to day large number people continued suffering of chronic pains i.e. backache, headache, facial pains, musculoskeletal pains, pelvic and visceral abdominal pains ....

.This suggests that we still have a long way to go. We just begin to know that the brain can generate pain in the absence of any evidence of injury, infection or other pathology. The brain is extraordinarily complex organ and so many secrets are still to reveal. There is certainly the hope that those secrets will also illuminate ways to wipe out the horrible pain and suffering to people .

Ultimately it is worth to consider statement of a Psychiatrist Andrew Hodgkiss of London who stated that though we always try to correlate the severity of pain and disease but this is far from truth. Of course the pain is in mind. All pain is in mind even if there is a great lesion. Ultimately Pain is a live experience. It is a perception .It is an emotion. It is all thing at once. Very often cause of pain far from our expectation or untreatable so only option is to live with pain keeping cause untouched. And by various coping skills and cognitive behavioral therapy/CBT, a patients have to learn how to live normally in spite of pain as it is rare to remove chronic pain entirely. We are intent and dream to remove the pain entirely from medicine. But may be not. So concluding that the pain is a blessing to man kind .By giving signal of pathology in body ,it has a protective and survival value. On the other hand pain is major cause of suffering to man kind. Significant number of people of all age group suffer from chronic pain including cancer pain. To day large number of measures single or in combination tried to reduce the quantity of pain but not completely or entirely. The ultimate pain is in mind and brain. We have just begin to learn the anatomy and physiology of pain. Once more secrets of pain mechanisms are revealed we hope for complete relief of chronic pain in man kind. Till now use of all available tools against pain ,cognitive behaviour therapy and learning to live with residual pain is answer to all chronic pain.

Big question of science British library publication:

Original Articles:

IMPACT OF SPIRAL ORIENTATION OF MYOFIBRES AND VENTRICULAR SYNCITIUM : STUDY OF LEFT VENTRICULAR DYSFUNCTION IN 22 PATIENTS OF COPD, COR-P WITH NORMAL CORONARY ARTERIES.

Dr Jayesh Raval, Dr Pragna Raval

Introduction

Clinical presentation of breathlessness on exertion is often confused between angina equivalent - breathlessness and pulmonary origin breathlessness . echocardiography and Doppler evaluation has been used for differentiating these aetiologies in an individual . However , at times even echocardiography is not informative as it brings out biventricular dysfunction and hence LV dysfunction can not be ruled out in COPD , cor – pulmonale patients on clinical grounds alone.

The present observational study tries to evaluate left ventricular function in COPD , cor –pulmonale patients .

Materials and methods

Consecutive 71 patients presenting with chief complaints of breathlessness on exertion were referred to echocardiographic evaluation .

All 71 patients were regularly attending pulmonary physicians clinic . they were having diagnosis of moderate to severe restrictive abnormalities in pulmonary function tests. (P.F.T.) and some reversible component of obstructive pattern in P.F.T. was seen in 42 of these patients . Average duration of OPD consultation for COPD was 18 months prior to echo evaluation . average duration of breathlessness complaint was 24 months. Episodes of waxing and vaning in breathlessness was observed during this period.

Out of 71 patients 49 were male and 22 were females . age ranged from 39 to 71 years with mean age 48.4 years.

Of these 71 patients 40 had associated diagnosis of stage I and II hypertension while 26 were having diagnosis of type II diabetes mellitus

maintained on oral drugs. All 71 patients were taking inhalation agents for their pulmonary ailment. And only 15 were on steroidal inhalation agents.

Observations

As expected all 71 patients had mild to moderate dilatation of right atrium (RA) and right ventricle (RV) . Tricuspid regurgitation of mild to moderate severity was seen in 68 patients . RV was dilated in all subjects but RV dysfunction was noted only in 28 patients.

Pulmonary hypertension evaluated by TR jet was seen in all patients . pulmonary arterial hypertension (PAH) ranged from milder variety to severe variety . RV systolic pressure (RVSP) estimated was from 40 mmHg to 95 mmHg . Those patients having RVSP greater than 60 mmHg had biventricular dysfunction .

On echocardiographic evaluation 22 patients were having bi ventricular dysfunction . Conspicuous left ventricular dysfunction in these patients were unexpected findings on clinical grounds .

22 patients showing left ventricular dysfunction(LVD) had severe PAH observed by TR jet . (RVSP 75 mm Hg and above). All these patients showing LVD had paradoxical movement of interventrivcular septum (IVS) .Apicolateral wall ballooning was seen in 15 patients and other patients exhibited moderate to severe global hypokinesia . Average ejection fraction of LV was 30 % with lowest LVEF being 15 % .

As clinical data suggested presence of associated risk factors for ischemic heart disease., all 22 patients underwent coronary angiography as part of evaluation for LVD . out of these 22 individuals , 20 had normal coronary arteries . while two individuals showed presence of minor atheromatous plaques in coronaries. Hence all patients of COPD and LVD had insignificant coronary disease. It is note worthy to say that their ECGs were normal.

Discussion

Left ventricular dysfunction in established cases of COPD , cor – pulmonale is an unexpected finding. Evaluation of coronary arteries is necessary in these middle aged individuals with some risk factors for ischemic heart disease, (IHD) .

Once coronary artery disease is excluded , LVD needs explanation on anatomical basis. Orientation of longitudinal axis of myofibres I ventricles can explain this.

Myocardial fibres are interwoven and sheets of contractile elements are oriented in such fashion that both ventricles work as a single unit . this concept of syncitium means if one cavity dilates the other will also dilate progressively. Interventricular septum (IVS) is common for both the ventricles. IVS is shared by both ventricles in contractile force. When RV dilates , IVS moves paradoxically, TR sets in and IVS contributes more in RV output. LV gets smaller and compressed .

Longitudinal axis of myocardial fibres will wind round across anterior and lateral walls of LV. Spiral orientation of these fibres will get stretched at one end in RV so it takes away the effective force of contraction . The other end of myofibre is spirally located . Distorted ventricular geometry due to RV dilatation will lead to LV dilatation subsequently resulting into LVD .

Marked RV dilatation has impact on wall tension and increased oxygen demand in RV walls . Ventricles have interdependent working pattern as space within pericardium is limited.

SUMMARY

Established cases of COPD, cor –pulmonale may have significant LV dysfunction also . The possible explanation of this biventricular dysfunction is anatomical. These patients have LVD without IHD .

ECG evidence and angiographic evidence of IHD is lacking though LV dysfunction is present.

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"SEROPREVALENCE OF TRANSFUSION ASSOCIATED HEPATITIS C VIRUS (HCV) IN MULTI-TRANSFUSED THALASSEMIC CHILDREN OF THE TERTIARY CARE HOSPITAL."

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Ethical consideration: This data is a part of routine investigation procedure so; author has not taken permission from Institutional ethical committee.

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Abstract:

Aim: To know the seroprevalence of Hepatitis C Virus (HCV) in Multi-transfused Thalassemic Children attending a tertiary care hospital, Ahmedabad, Gujarat.

Material and Methods: Serum sample were tested by Enzyme Linked Immuno Sorbent Assay (ELISA) test for Anti HCV antibody from the thalassemic children over a period of 4 years from January 2006 to December 2009.

Result: A total of 163 thalassemic children were tested for antibody of HCV. Out of these HCV antibodies were positive in 38 (23.31 %) patients.

Conclusion: Prevalence of HCV infection among the thalassemic cases is much higher than the routine blood donors. In the light of this result a nationwide survey is recommended to confirm this pattern in the other areas and more sophisticated diagnostic tool should be employed to rule out window period of these Transfusion Associated infections.

Key words: Hepatitis C virus (HCV), Thalassemia, Multitransfused children

INTRODUCTION

Blood transfusion is a life saving modality but it should be judiciously used. The transfusion of blood and blood product is much safer than ever before but far

from attaining “zero risk” level at the present moment.[1] Patients receiving multiple transfusions are at a high risk for transfusion-associated diseases and thalassemic children form one such high-risk group.[2] Regular blood transfusion in patients with hereditary haemolytic anaemia, particularly thalassemia, has improved their overall survival, but carries a definite risk of acquision of blood-borne virus infections, especially viral hepatitis.[3] Hepatitis B has a declining trend, probably as a result of regular pre-transfusion screening for HbsAg, use of hepatitis B vaccination and improved public awareness about the disease.[4] However, post transfusion transmission of hepatitis C virus (HCV) has still remained a major health concern in thalassemic patients. Moreover, with respect to marked liver iron overload, which is often inevitable in patients on regular blood transfusion, HCV infection have been shown to have a potentiating effect on hepatic fibrogenesis in thalassemic patients.[3] Chronic hepatitis C has been indicated as a progressive disease that dramatically increases the morbidity and mortality rates among these patients due to liver failure or hepatocellular carcinoma.[5]

It has been proposed that routine screening of donated blood could greatly reduce the risk of transfusion acquired HCV infection and this is rapidly becoming standard practice in Europe and North America.[6] In India, mandatory screening for HCV was introduced as late as 2002.[7] However, in our setup, screening of HCV antibodies in donors has been started from 2001.

In view of the above facts, this study was undertaken to determine seroprevalance of transfusion related viral hepatitis C in multitransfused children of

thalassemia attending a thalassemic clinic at major referral teaching and tertiary care hospital, Ahmedabad, Gujarat.

MATERIAL AND METHODS

This prospective study was conducted at one of the largest tertiary care centre hospital in Ahmedabad, Gujarat from January 2006 to December 2009 over a period of 4 years. A total of 163 multitransfused thalassemic children attended in Thalassemia clinic were taken as study group.

Inclusion Criteria: Known cases of B- Thalassemia major that has been transfused, as a part of their management, at least five units of blood, irrespective of their age, sex and history of jaundice were included in this study.

Exclusion Criteria: Patients who had been transfused less than 5 units of blood.

Clinical Features: A detailed clinical account was entered in a proforma, taking into account with emphasis: age, age at diagnosis, frequency of transfusion, history of jaundice, enlargement of liver and spleen, awareness about risk of developing transfusion transmitted hepatitis, whether transfusion blood was always screened for hepatitis for the best of parents knowledge, history of regular screening for hepatitis C infection.

Collection of the samples: Two milliliters of blood sample was collected aseptically from each patient and centrifuged. Serum was separated within four hours of the collection and stored at -20° c in vials for testing by Enzyme Linked Immuno Sorbent Assay (ELISA).

All sera were tested by 3rd generation ELISA (Microscrolisa - J.Mitra, India) for

HCV antibodies. All tests were carried out using procedures as per the manufacturers' instruction and conducted uniformly for all samples using same standards in the same laboratory. Any positive results were tested once again by ELISA.

RESULT:

In a total of 163 children of thalassemia major studied in this series, 112 were male and 51 females, with M: F ratio 2.2:1.

The age at the time of the diagnosis ranged between 3 months to 5 years with a mean age of 1year and 2.5 months. Age at the time of this study ranged between 4 month to 16 years with a mean age of 5 years and 11 months. Interval between successive transmissions was on an average 21 days.

The seroprevalence of HCV in the thalessemic children is 23.13% (38/163).

Table 1 shows seroprevalence of anti HCV antibodies in relation to frequency of blood transfusion.

Comparisons of our study with other studies are shown in table 2.

All the HCV positive thalassemic children (100%) presented with pallor. Hepatosplenomegaly was seen in 37 (97.37%) cases, frontal bossing in 36 (94.74%) cases, jaundice in 17 (44.74%) cases and oedema in 3 (7.89%) cases.

All the parents were aware of the risk of transfusion-transmitted hepatitis. They were all satisfied that their child was being transfused with properly screened blood.

DISSUCTION:

Early and regular blood transfusion therapy in patients of β-thalassemia major decreases the complications of severe anaemia and prolongs survival. It is particularly so in patients who are fortunate enough to receive an adequate, regular iron chelation therapy, and are therefore protected from organ damage by iron overload. However, if there is a breach in “safe blood transfusion”, these patients are confronted by new clinical challenges, particularly in the form of transfusion transmitted diseases, especially HCV, HBV and HIV infections. It should be remembered that HCV hepatitis is more threatening than HBV hepatitis due to a greater risk of chronic liver disease.[4]

As shown in table 2, prevalence of HCV seroprevalence in multiply transfused β thalassemia patients from the different parts of the world has been observed to vary greatly from 11.1% to 63.8%. This extreme degree of variability depends on the prevalence of HCV in the relevant population and therefore also in the blood donors, practice of HCV antibody screening before the transfusion is instituted, different sensitivity and specificity of tests used and differing donor selection criteria.[2]

HCV prevalence observed in our study was 23.31% (38/163). One study carried out by Mathur M et al in Mumbai in 2008, the prevalence of HCV in the thalassemics were 43.65%, it is higher than our study but explanation behind this is in their study group, they enrolled age group of ten months to 22 years including children and younger adults, while in our study we enrolled only children and there is geographical variation that also a contributory factor for variation of HCV prevalence in both study. [8] However the reported prevalence of the anti HCV positivity of thalassemics from India varies from 11.1% - 43.65%. [6, 8]

As shown in table 1, 132 out of 163 (80.98%) thalassemic children had received less than 50 transfusions, among which only 12 (9.09%) children came out positive for HCV. Whereas 31 out of 163 (19.02%) children had received more than 50 transfusions and positivity rate of HCV in these children were very high (83.87%, 26/38). Thus, seroprevalence of HCV increases as the number of transfusions also increases. Prevalence of HCV also depend upon the age of the thalassemic children; that is as the age of the thalassemic children is more, number of transfusion is also more. [6] Hence the prevalence of HCV is also more in these children.

Out of total 163 Thallasemic cases, 51 were female child and 112 were male. In our study current age of the thalassemic children was 4 month to 16 years with mean age of 5 years and 11 months. It is well correlated with the study carried out by M Mathur (6.7 years).[8] The mean age of the diagnosis of β thalassemia in our study group children was 1year and 2.5 months.

Above observation strongly indicate transfusion as a major risk factor for HCV infection acquisition among thalassemic patients and confirmed the marked efficacy of donor screening in the prevention of viral transmission. In all the centres taking care of thalassemia management, uniform strict criteria for donor selection should be adopted. A serious consideration should be given to history of jaundice and drug addiction, etc in donors. Given that the cost of chronic hepatitis C therapy using the peg-interferon combination regimen is approximately 1.5-2 lakh rupees for 6 month, prevention seem to be a more cost effective modality. Transfusion associated hepatitis is a largely preventable disease.[2] Blood screening using viral antigen and

nucleic acid amplification test (NAT) rather than identifying antibodies can reduce window period of that infection substantially will aid in delivery of safe blood. Blood transfusion, a life saving modality, can be made safer by the introduction of NAT for screening of blood units and it can be made cost effective by pooling samples.[8]

Table 1 Seroprevalance of anti HCV antibodies in relation to frequency of blood transfusion

No. of Blood Transfusion	No. of Thallasemic Children (n = 163)	No of HCV positive children (n = 38)
< 50	132 (80.98%)	12 (9.09%)
>50	31 (19.02%)	26 (83.87%)
Total	163 (100%)	38 (23.31%)

Table 2 Comparison of our study with other studies

Year of Publication	Country	Number of Patients Studied	HCV Seroprevalence Percentage	Reference Number
1990	Britain	No. of Blood Transfusion	No. of Thallasemic Children (n = 163)	No of HCV positive children (n = 38)
1992	India	54	< 50 132 (80.98%) 11.1	12 (9.09%)
			>50 31 (19.02%)	26 (83.87%) 6
			Total 163 (100%)	38 (23.31%)
1993	India	No. of Blood Transfusion	No. of Thallasemic Children (n = 163)	No of HCV positive children (n = 38)
1994	Italy	72	16.7	12
2002	India	256	60	14
		50	30	
			< 50 132 (80.98%)	12 (9.09%) 11
			>50 31 (19.02%)	26 (83.87%)
			Total 163 (100%)	38 (23.31%)
2002	Iran	105	63.8	10
2003	Bangladesh	259	12.5	9
2004	Pakistan	60	35	15
2008	India (Mumbai)	126	43.65	8
2009	Khuzestan, Iran	206	28.1%	16

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17. Table : Clinical correlation of Thalassemia cases

Clinical features	
Pallor	38(100)
Jaundice	38(100%)
Frontal bossing	36(94.74 %)
Oedema	3(7.89)
Ascities	0(0)
Prominent zygomatic bone	35(92.11)
Depressed nasal bridge	34(89.47)
hepatospleenomegaly	37(97.37)

All the parents were aware of the risk of transfusion-transmitted hepatitis. They were all satisfied that their child was being transfused with properly screened blood.

PERCEPTION OF EYE DONATION IN MEDICAL STUDENTS OF AHMEDABAD

Dr Amit P. Patel M.S (Professor ,Dr Dipali R. Satani M.S (Associate Professor),Dr. Jignasa Parikh M.S (RMO),Dr. Jitendra P. Patel M.S. Anatomy (Associte Professor),Dr. Ritesh K. Shah M.S. Anatomy (Jr. Lecturer)

Abstract:

AIM

To study the knowledge and perception of EYE DONATION IN MEDICAL STUDENTS of N.H.L municipal medical college, Ahmedabad

INTRODUCTION

Corneal diseases are a major cause of visual impairment in the developing world. Almost 190,000 people in INDIA suffer from bilateral corneal diseases, with 20,000 joining the list every year. This figure is contrastingly high as compared to the number of eye donations. The waiting corneal transplants constitute a constantly increasing backlog. The need of today lies in education of masses about eye donation in an effort to increase the number of eye donations.

The medical students, the upcoming physicians of tomorrow constitute a major potential force to increase the rates of eye donations. This untapped potential would have the opportunity to counsel and motivate the patients or relatives to donate eyes. To do this the students should first themselves be reasonably aware about the need of eye donations, the proper utilization of donated tissue and the potential success of transplantation.

The study was designed to assess and improve the knowledge and attitude of medical students towards eye donation.

MATERIALS AND METHODOLOGY

A batch of 204 medical students of second and final year was taken as the study group and was given preset questionnaire consisting of 20 questions regarding the eye banking and corneal transplantation. All 204 of the students responded to the questionnaire. The questionnaire covered the social and technical aspects of eye donation. It also dealt with contraindications to donation, transportation and storage of the donated eye.

RESULTS

- All 204 students participated in the study. The students belonged to the age group of 21 to 22 years. The sex wise distribution was of 122 males (59.8%) and 82 females (40.2%).
- 184 students (90.1%) students were aware that eyes can be removed only after death and that it should be removed within 4-6 hours of death was known to 186 students (91.1%). Only 51 (25%) students were aware that up to 70yrs is the ideal donor age limit for transplantation.
- While 114(55.8%) students knew that after death the donor's eyes should be kept closed while waiting for the donation, 90(44.1%) would have felt the need to ask the doctor about it. The students were relatively well informed about the transportation and storage, with the medium of transportation known to 145(70%) students. 198 students were aware that storage time can be prolonged by either refrigeration known to 69 (33.8%) students and by use of various chemical media known to 129 (63.2%). students
- The respondents were not very well aware about the ocular and systemic contraindications .Infection with hepatitis B was known as a contraindication to only 132(64.7), HIV to 168(82.3%) and another 123(60.2%) cited malignancy as contraindication to donation.
- Out of 204, only 9(4.4%) students had pledged their eyes for donation with 150 (73.5%) willing to pledge, and 27 wanted parents approval for it. 96(47%) were ready to donate eyes of a close relative in case of untimely death, whereas 57(28%) would donate only if relatively had previously pledged his eyes.
- Their views about lack of eye donation in the society were variable with a majority of 159 (78%) citing lack of awareness as the main reason. Another 69(33.8%) cited religious reasons, 78(38.2%) mentioned objection by family members and 81(39.7%) felt that ill treatment to the dead body was a major cause.
- Nobility was the main motivation for donation according to 132(64.7%) students and 132(64.7 %) felt the need for helping the blind was the motivating factor.

DISCUSSION

India has a fairly dark picture in statistics of eye donation as compared to the number of visually impaired due to corneal blindness. Corneal transplantation is one of the most successful organ transplant procedures. It is the only means of providing the "*GIFT OF VISION*" to those visually impaired by corneal pathologies. The gap between the increasing numbers of corneal blindness and dismally low number of eye donations is on a constant rise. In order to enhance the rates of eye donation, effort needs to be made in the direction of creating awareness and educating masses to dispel off their misconceptions. Medical students, the 'doctors of tomorrow' can play the crucial role of counseling, education and creating awareness among the patients and their relatives on eye donation.

Our study was aimed at studying this attitude in medical students and filling any lacunae they had regarding their knowledge on eye donation and transplantation.

More that 90% of the respondents knew that cornea can be transplanted and eyes as a whole can be removed after death. The same number was aware that it is ideal to remove the eyes within 4-6 hours of death. Knowledge of this is important lest it can cause wastage of potential donor tissue.
Wet packs or cotton pads need to be applied to the closed lids until enucleation.
Almost 44% of the respondents would have required the assistance of a doctor regarding what to do after relative's death.
The removal of whole eyeball is beneficial in the way that endothelium remains protected and other parts like sclera can also be used. There is no such visible mutilation as perceived by the relatives .Such issues need to be stressed and demonstrated during undergraduate training so that these future doctors can confidently reassure the relatives.
Most medical students rightly listed corneal diseases and tumors as ocular contraindications. The knowledge regarding systemic contraindications was limited to hepatitis B and HIV among most students. There is a need to inform them the prevailing ocular and systemic contraindications.
Transportation and storage of donated eyes is the job and responsibility of trained ophthalmic personnel, hence knowledge regarding these aspects was relatively poor as expected.
More than 80% of the students knew that they can pledge their eyes in an eye bank; however most could not name more than 1 eye bank. 95% had not yet pledged their eyes; but 73% intended to do so.
The prime reason cited for lack of eye donation was the lack of awareness. Religious reasons was the second major cause and others included objection by family members, and feeling of ill treatment to the dead body.
Nobility and the need for helping the blind were the most common motivating factors.

To increase eye donation rates in INDIA, media publicity alone is not enough. The medical student's potential as present and future motivators needs to be tapped to fullest. The unwillingness of healthcare professionals to facilitate donation is attributed to lack of awareness, initiative and fear of liability. Their faith in success of corneal transplantation and proper utilization of donor tissues needs to be inculcated. This can be done by means of showing enucleation procedures, exposing them to the working of an eye bank, and introducing them to patients with successful corneal transplantation.
This may help in dispelling their misconceptions and misgivings and becoming a source of motivation and encouragement for eye donations.

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Questionnaire: PERCEPTION OF MEDICAL STUDENTS REGARDING EYE DONATION

Q1- Which of the following organs can be donated---

a) liver
b) spleen
c) heart
d) kidney
e) eye

Q2 –The eyes are removed from the donor –

a) after death
b) both while alive and dead
c) when alive only
d) don’t know

Q3- The time duration in which the eyes can be removed after death

a) within 4-6 hours
b) within 24 hours
c) within 48 hours
d) don’t know

Q5-Which part of the eye can be transplanted-

a) cornea
b) retina
c) cornea, retina and lens
d) vitreous

Q6-What is the age limit of the donor for transplantation-

a) <25 yrs of age
b) < 50 yrs of age
c) < 70 yrs of age
d) no such age limit

Q7-What should the relative do after informing the institution about donor’s death-

a) ask the doctor what to do
b) keep the eyes closed

c) don’t need to do anything
d) don’t know

Q8- In case a Post Mortem needs to be done, eyes can be collected -

a) after the postmortem
b) before the postmortem
c) during the postmortem
d) it doesn’t matter

Q9 -The eyes can be transported to the eye bank in –

a) moist medium
b) in special designed containers only
c) cold ice packs
d) all of above

Q10 The storage time of eyes can be prolonged by-

a) keeping in various chemical media
b) storing in refrigeration
c) cannot be prolonged
d) don’t know

Q11Which of the following eye diseases are contraindicated for eye donation-

a) refractive errors
b) cataract
c) glaucoma
d) ocular infections
e) tumors
f) none of above

Q12 Which of the following systemic conditions are contraindicated for eye donation-

a) hepatitis B
b) hepatitis C
c) HIV
d) Malignancy
e) Gastroenteritis
f) Septicemia

Q13 Would you like to pledge your eyes for donation-

a) Yes
b) No
c) Need parents approval
d) Don’t know

Q14 Have you pledged your eyes already-

a) Yes
b) No

Q15Where would u go to pledge your eyes –

a) eye hospital
b) eye bank
c) eyes specialist
d) don’t know

Q16 Would you donate eyes of any of your close relatives in case of untimely death

a) yes
b) only if the relative had pledged his eyes
c) no
d) don’t know

Q17 Reasons for lack of eye donation in our society-

a) lack of awareness
b) religious reasons
c) objection by family members
d) feeling of ill treatment to the dead body
e) others (please mention the reason)

_____
___

Q 18 Name some eye banks in ahmedabad-

1. .

2. .
3. .
4. .

Q19 What is the motivation among eye donors-

a) eye donation is a noble work
b) friend/relative has donated or received an eye
c) effect of media(TV, movies, newspapers , magazines)
d) for helping the blind
e) any other (_____)

Q20 Scenario in India regarding the need for eye donation

a) gross shortage of eye donations
b) adequate number of eye donations
c) more than that required
d) don't know

TOBACCO USE AMONG 5 to 15 YEARS OF CHILDREN IN ONE OF THE URBAN SLUMS OF AHMEDABAD CITY.

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Key-words: Tobacco use, children, pocket money, knowledge of tobacco hazards.

Abstract

Background: Use of tobacco in various forms is very rampant and it is seen even in young children. There has been a growing concern about negative effects of these substances on youth. This study was carried out to find the prevalence of the tobacco use and to identify factors associated with it in children of one of the urban slums of Ahmedabad city.

Methodology: Personal interviews of 200 randomly selected children were taken and information was collected regarding various socio-demographic variables, reasons for addiction, willingness to quit tobacco, daily pocket money spent on tobacco and knowledge regarding hazards of tobacco use. The data was analyzed by using appropriate statistical software.

Results: Out of total 200 children 80% were addicted to tobacco in some form. Mean age for children using tobacco was 11.48 years. More than 40% of their pocket

money was spent on tobacco. Mean age of starting tobacco was 6.84 years. Average daily intake was around 4 packets. There was significant association found of tobacco use with parents' education, friends' and family members' addiction & availability of television at their home. 62.5 % of children were ready to quit tobacco. Knowledge about tobacco's harmfulness was there but was not sufficient to deter starting smoking.

Conclusion: The finding of this study confirmed that there is high prevalence of tobacco use in 5-15 years of the children in the study area. Male gender, education of parents, addiction of parents and peer pressure were independently associated with current tobacco use. Health Education should be accompanied by more determined enforcement of health policies.

Introduction:

According to NFHS 3, in India 55.8% males and 10.8% females in age group of 12-60 years have been found to be taking tobacco. Among Males, 32.7% were smokers & 36.5% were tobacco chewers, while in females proportions were 1.4% & 8.4% respectively[1]. Currently about one fifth of all worldwide deaths attributed to tobacco occur in India, more than 800,000 people die and 12 million people become ill as a result of tobacco use each year[2,3]. Tobacco use among young and children are a part of the spectrum of adverse health behavior leading to acute and long term health problems. The Global Youth Tobacco Survey 2006 found that in boys the prevalence is 55.1% and in girls it is 32.1%. Currently around 4.2% of students smoke while about 12% take other tobacco products. And 36.9% of children start smoking before they reach the age of 10 years[4].

Children and teens are easy targets for the tobacco industry. They are often influenced by TV, movies, advertising, and by what their friends do and say. They don't realize what a struggle it can be to quit, and having cancer, emphysema, blindness, or impotence may not seem like real concerns. Children are the future of any country. If tobacco menace is not tackled timely it can ruin the youth of the country.

As per India's Cigarette and Other Tobacco Product Act 2003, selling tobacco to minors or selling of tobacco by minors is forbidden and violation is punishable. It also prohibits selling of tobacco within 100 yards radius of any educational premise[5]. Still it is widely seen being violated.

It is necessary to have knowledge about the behavior of the children for indulging into such habit so as to formulate strategies to deal with the menace. The

present study was carried out to find the prevalence of the tobacco use and practices in children of 5 to 15 years of age in study area and to determine the various social factors responsible for their behavior.

Materials and Methods:

The present study was conducted in Gulbai Tekra area of Ahmedabad, a premier city of Gujarat state in western part of India. This area is having one of the biggest urban slums of the city. Total population of the area is around 6000 and population of 5 to 15 years children is around 1300. It was a Cross sectional study carried out on randomly selected 200 children of 5 to 15 years of age in the study area during September-October 2008. House to house survey was conducted to collect information regarding various socio-demographic variables, habit of tobacco, age of starting tobacco, reasons for taking tobacco, willingness to quit tobacco, daily pocket money spent on tobacco, knowledge regarding hazards of tobacco use, tobacco use by any family member or friend and regarding availability of television by personal interviews of children using pre designed & pre tested proforma. The child who had taken tobacco regularly at least once a week during the last month was considered as having habit of tobacco.

In the study Data Analysis was done using appropriate statistical software for calculation of proportions and tests of significance wherever applicable.

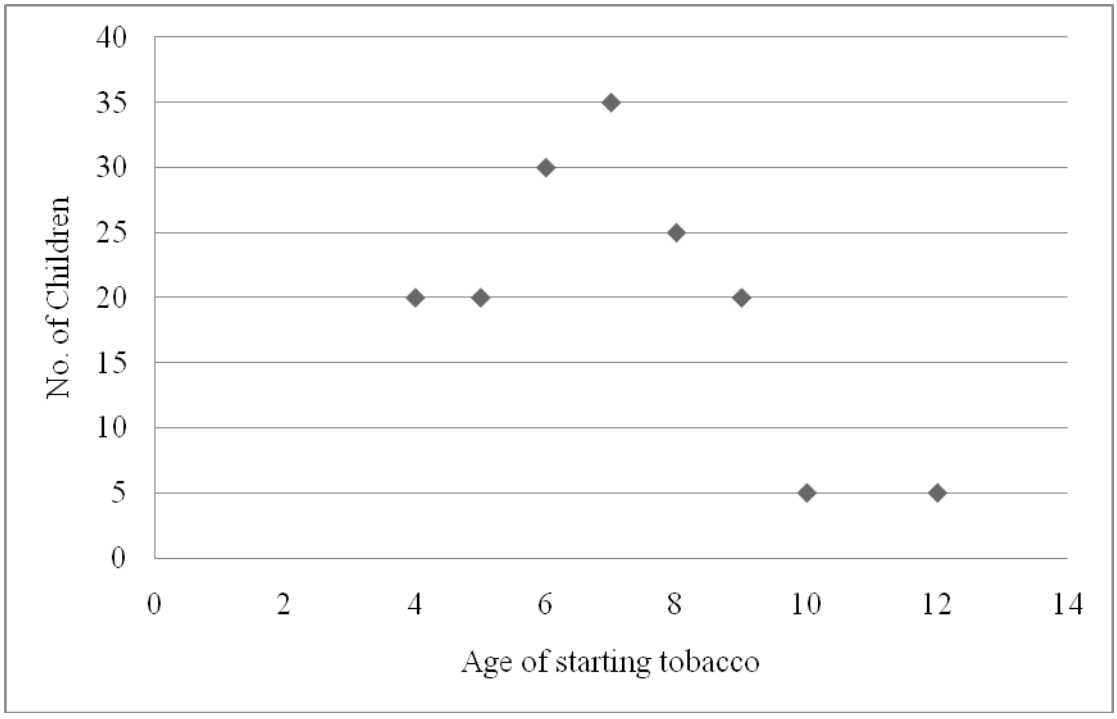
Results:

Mean age of the children in the study was 11.40 (±2.68) years. There were 88 girls and 112 boys in the study group. Mean age of the children taking tobacco was 11.48 ± 2.52 years. Tobacco use was 31.3% in 5 to 10 years of age group while it is 68.7% in 11 to 15 years age group which is significantly higher. ($Z = 7.9$, $p < 0.01$). According to sex wise distribution 87% of boys and 71% of girls had habit of tobacco. The difference was statistically significant. (Chi-square = 6.945, $p<0.05$)

All the children were taking smokeless form of tobacco in various forms. The most common one was use of Gutka in 65.60% followed by flavored betel nuts (25%), snuff (6.20%) and betel nuts (3.20%) and rest were using it as bajar (applying on teeth).

About 56% of children started tobacco during 6 to 8 years of age with mean age of starting tobacco use was 6.84 ± 1.88 years (figure 1) with no significant difference between males & females.

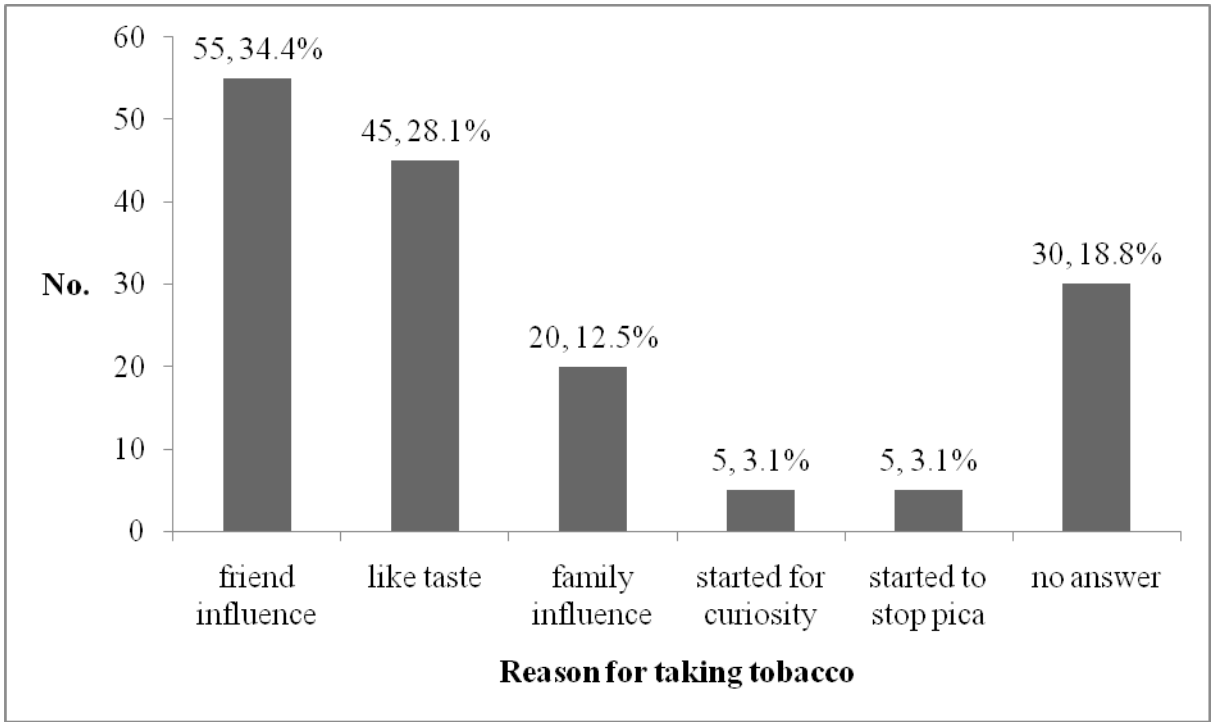
Figure 1 Age of starting tobacco



Average daily intake of tobacco was around 4 packets (3.68 ± 3.39 packets/ day). Mean money spent for tobacco use were Rs. 4.31 ± 4.33 per day. On an average 41.49 ±30.1% of their pocket money was spent on tobacco.

On asking the children regarding the reason for taking tobacco friend's influence was the most common in about 35% followed by others i.e. liking taste, family member's influence etc. (figure 2)

Figure 2 Reasons for taking tobacco



Knowledge of tobacco hazards was present in 56.3% of children. Regarding Parents awareness about tobacco use in their children, 68.7% of parents knew about their children's habit. Though almost 50% had made efforts to quit tobacco, no one was successful in quitting and willingness to quit tobacco was there in 62.5% of children.

Various factors studied in association with habit of tobacco in children were as in table 1.

Table 1 Various factors found associated with the habit of tobacco

Sr. No	Variables	Significance	Odds ratio	95% C.I. for odds ratio
1	Friends' addiction	P <0.0001	42.78	15.17 – 120.64
2	Television at home	P<0.0001	9.67	4.27- 21.87
3	Parents Addiction	P<0.001	5.95	2.83-12.50
4	Siblings addiction	P<0.001	4.38	2.01-9.59
5	Male Sex	P<0.01	2.56	1.26 – 5.24

6	Father Education	P>0.05	-	-
7	Mother Education	P>0.05	-	-

Some Salient findings:

- Minors purchase tobacco very easily as various tobacco stuffs available were very cheap (0.50/- to 1/- per packet).
- As the habit of chewing sweet nuts preceded the final shifting on gutka chewing in 43% of children, the habit of chewing sweet nuts should be addressed more efficiently.
- There was no restriction on minors purchasing tobacco from many household shops in the vicinity of their schools and residences.
- The information about the hazards of tobacco chewing was not displayed on any of the outlets from where children were buying the tobacco products.

Discussion

In the present study mean age of the children was 11.40 $\pm$ 2.68 years. The overall prevalence of tobacco use was found to be 80% which is quite high with 87% of boys and 71% of girls having habit of tobacco. A study conducted in Wardha reported that 68.3% boys and 12.4% girls had consumed some form of tobacco products in the last 30 days, with an overall prevalence of 39%[6]. In a study in Congo on adolescents showed 18.0% males and 18.1% females having used smokeless tobacco[7]. A study in high schools in Kerala showed 8.5% of the participants were

tobacco users[8]. Similar finding was there in a study by Sinha et al in the age group of 13-15 years[9]. No study included children of 5 to 10 years of age for studying use of tobacco.

Tobacco use was significantly higher in 11 to 15 years age group than in 5 to 10 years. A study conducted in Gujarat by Makwana et al also observed that the prevalence of tobacco chewing increases with age[10].

In the study all children having habit of tobacco were taking smokeless form of tobacco.The Global Youth Tobacco Survey reported that among adolescent children, smoking is the predominant form of tobacco use in the developed countries, whereas in the developing countries smokeless tobacco is equally prevalent[11].

More than 40% of their pocket money was spent on tobacco. Average daily intake was around 4 packets. There was significant association found of tobacco use by children with parents' education, friends' and family members' addiction & availability of television at their home. Similar finding was there in a study in Congo[7].

About 56% of children started tobacco during 6 to 8 years of age. It is the lowest age for starting tobacco as compared to that reported in other studies. More than 50% smokeless tobacco users started their habit at the age of 12 years in a study in Kerala[8]. A study conducted in Mizoram observed that the mean age at the start of tobacco chewing and smoking was 17.2 years[12]. Knowledge about tobacco's harmfulness was present in 56.3% but is not sufficient to deter starting smoking. Though almost 50% had made efforts to quit tobacco, no one was successful in

quitting and willingness to quit tobacco. Children could easily get access to tobacco shops in the study area. Similar finding was there in study at Kerala.[8]

There was high prevalence of smokeless tobacco use in 5-15 years of the children in the study area with quite early starting of tobacco use. Peer pressure, addiction of parents, male gender, education of parents were contributing for tobacco use in children respectively in descending order. Easy availability and accessibility was also important for high prevalence of tobacco use. Health Education should be accompanied by more determined enforcement of existing health policies. Strict implementation of legislative measure banning sale of gutka and other chewing tobacco to minors is needed. There is need to target and focus interventions through comprehensive programmes aimed at children, school authorities, parents and policy makers.

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EFFICACY OF SUBCONJUNCTIVAL BEVACIZUMAB INJECTION IN CORNEAL NEOVASCULARISATION

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AHMEDABAD-380006

ABSTRACT

AIM :To evaluate the therapeutic effect of subconjunctival Bevacizumab on corneal neovascularisation

DESIGN : A prospective randomized noncomparative study.

METHOD:**The charts of 10 consecutive patients with corneal neovascularisation who received single S.C. inj. Of Bevacizumab (2.5mg/0.1ml) were reviewed. Digital photographs of the cornea were taken pre & post injection & then at 1wk,3wk & 2months duration. Digital photographs of the cornea were analyzed to determine the length, density, extent, centricity of corneal neovascularisation and the area of cornea covered by neovascularisation as a percentage of the total corneal area.**

RESULTS**:**

Subconjunctival injection Of Bevacizumab (Avastin) caused significant regression of corneal neovascularisation in 1 pt, partial regression in 6 pts and no effect in 3 pts as measured by length and surface area of neovascularisation. No significant ocular or systemic complications were found.

CONCLUSION:

Subconjunctival inj. Of Bevacizumab is effective in regressing corneal neovascularisation.

KEY WORDS :
corneal neovascularisation, Bevacizumab (Avastin),
Immunologic rejection,vascular endothelial growth factor

Prospective Study to Determine the Effect of Subconjunctival Bevacizumab (AVASTIN) in Corneal Neovascularization

DESIGN :

A prospective randomized noncomparative study.

AIM :

To evaluate the therapeutic effect of subconjunctival Bevacizumab on corneal neovascularisation

Material and method:

We have included the patients above the age of 18 , of either sex and who are willing to give consent and cooperate for frequent follow up.Patient should have corneal vascularisation minimum in one quadrant and should pierce more than 0.5 mm limbus area at any depth level.We have exclude the patients with active corneal infection or inflammation.We also exclude the patient who need urgent surgical procedure like keratoplasty.Preganant women and lactating mothers are also excluded.All included patients were given subconjunctival inj. Bevacizumab(2.5mg/0.1ml).

The charts of 10 consecutive patients with corneal neovascularisation who received single S.C. inj. Of Bevacizumab (2.5mg/0.1ml) were reviewed. Digital photographs of the cornea were taken pre & post injection & then at 1wk,3wk & 2months duration. Digital photographs of the cornea were analyzed to determine the length, density, extent, centricity of corneal neovascularisation and the area of cornea covered by neovascularisation as a percentage of the total corneal area.

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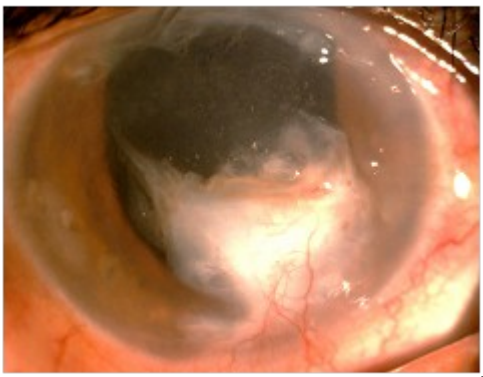
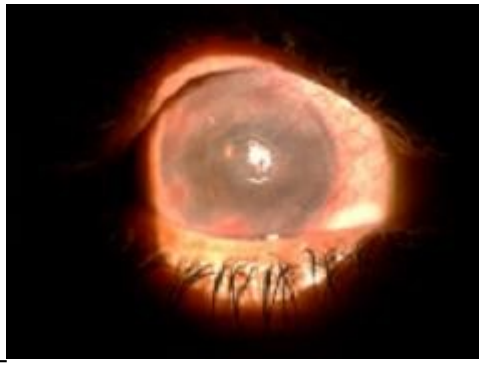
Significant regression	1 pt
partial regression	6 pts
no effect	3 pts

Pre Avastin ***Post Avastin (2mnths)***





DISCUSSION:

Corneal transplantation is the most commonly performed transplant surgery in the world today. Immunologic rejection is the leading cause of graft failure, with about 25% of graft recipients experiencing at least one episode of rejection. Of these episodes, about 20% are irreversible. The rate of corneal graft rejection in high-risk eyes, such as corneal neovascularization, has been reported to be 50% to 70%. Vascularized corneas have a much higher rate of graft rejection than avascular corneas. Whereas the normal cornea is devoid of blood and lymphatic vessels, both can invade the cornea secondary to a variety of corneal diseases and after surgery. This not only reduces visual acuity, but also renders such a cornea high-risk, if subsequent corneal transplantation is performed.Anti-angiogenesis, the pharmacologic inhibition of new blood vessel growth and formation, is a new treatment strategy under active and vigorous investigation. Multiple growth factors have been shown to contribute to the molecular events involved in the regulation of blood vessel growth Similarly, it is assumed that angiogenic growth factors such as vascular endothelial growth factor (VEGF), considered a major pro-angiogenic factor, could play a role in the pathogenesis of neovascularization.

Several approaches can be taken to neutralize VEGF. Bevacizumab (Avastin) is a full-length humanized murine monoclonal antibody against the VEGF molecule. It binds to and inhibits the biologic activity of human VEGF preventing the interaction of this molecule to its receptors on the surface of endothelial cells. The interaction of VEGF with its receptors leads to endothelial cell proliferation and new vessel formation.

CONCLUSION:

Subconjunctival inj. Of Bevacizumab is effective in regressing corneal neovascularisation.

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ABSTRACT

EFFECT OF YOGA TRAINING IN HYPERTENSIVE PATIENTS

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OBJECTIVE :

To evaluate the effect of yoga training in hypertensive patients.

MATERIAL AND METHODS :

20 individuals detected clinically to have essential hypertension between age of 40 – 70 years, who were under the treatment of anti hypertensive drugs, were enrolled for yoga training for 60 minutes daily, from Monday to Friday, for duration of 8 weeks at Heart Healing Centre, Shree M. P. Shah Medical College & Guru Govind Singh Hospital, Jamnagar. Heart Rate & Blood Pressure were recorded before training and at monthly interval during training period.

RESULTS :

There is significant reduction in resting Heart Rate (H.R.), Systolic Blood Pressure (S.B.P.), Diastolic Blood Pressure (D.B.P.) and Mean Blood Pressure (M.B.P.) at 4 weeks of yoga training period. After 8 Weeks of Yoga Training, there was further fall found in S.B.P., D.B.P., M.B.P. and H.R.

CONCLUSION :

Our study indicates that non medicinal approach as mentioned in Indian System of Medicine may be helpful to the group of people conservative in their choice of treatment.

KEY WORDS : Yoga Training Blood Pressure Heart Rate

: INTRODUCTION :

Of all the elements which may blow out life's little candle, Heart Disease, Hypertension (H.T.), are the chief non-communicable health problems especially in developing countries like INDIA.

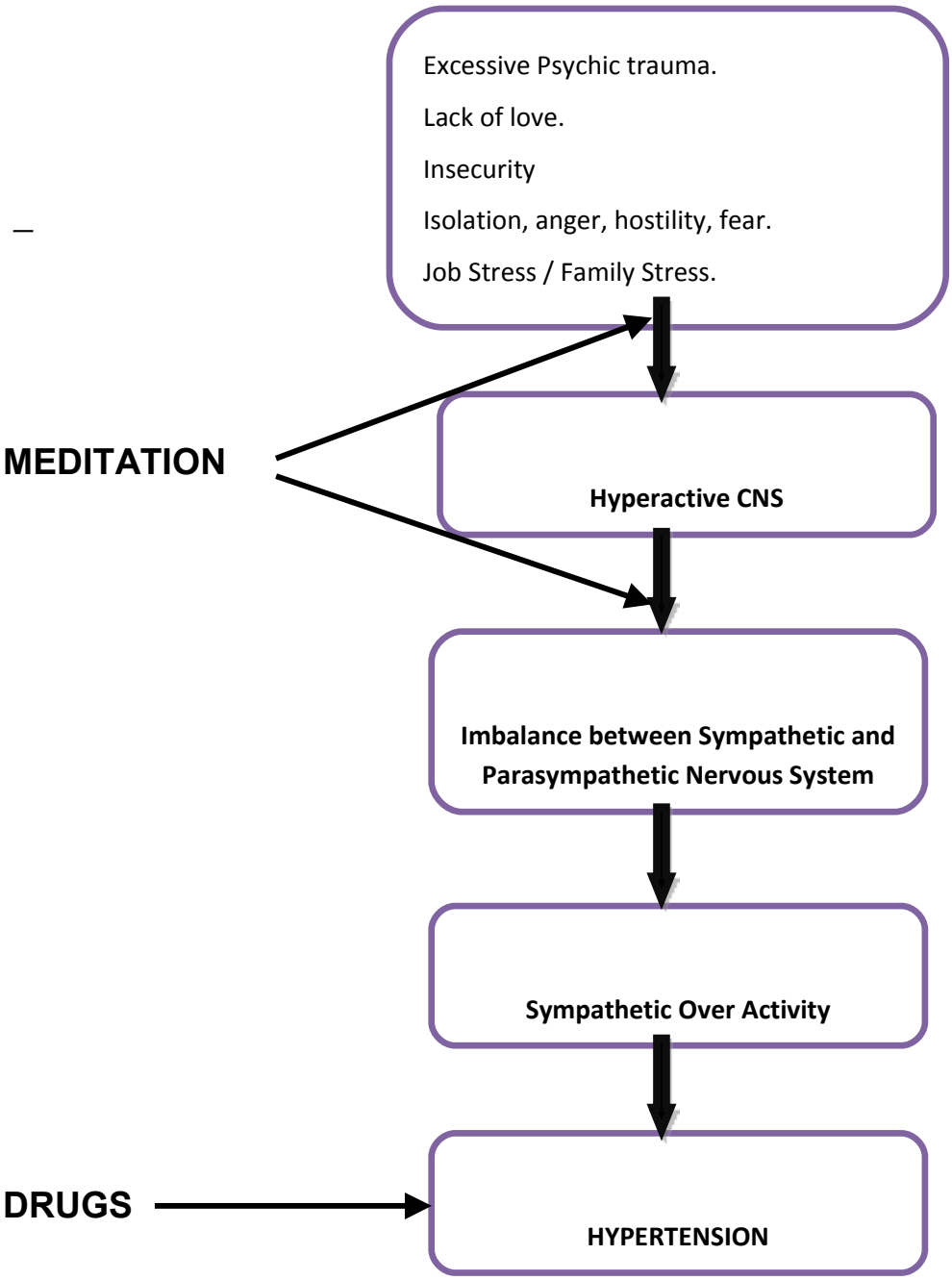
Jannes et al[1] , attributes the increasing H.T. prevalence in Asia to being a result of modernization. As a consequence of this modernization, there is

- Altered intake of Saturated fat and salt.
- Increased consumption of tobacco.
- Increased sense of Isolation and day to day stress.
- Increased sense of hostility and frequency of anger.

Hippocrates[2] , Father of Modern Science, says that healing power is in the body. He stated that the mind is not confined, merely to brain, it influence every cell of the body. Hence development of spiritual strength checks the progress of disease, at its roots.

H.T. is now considered to be ailment caused by defilement of SPIRITUAL QUALITIES also. As one starts loosing own spiritual qualities, the incidence of H.T. increases. This was the corner stone of philosophy of Ayurveda in possession of disease.

NATURAL HISTORY OF HYPERTENSION (H.T.) :



YOGA = UNION is the generally agreed definition. " A higher consciousness achieved through fully rested and relaxed body; and a fully awake and relaxed mind." Yogic techniques are ideal for improving one's ability to withstand stressful stimuli[3]. Yoga is effective for prevention as well as management of stress in hypertensive patients and in cure / control of essential hypertension[4,5]. Yoga practitioners in India used variety of approaches, like

- ✓ Yogic Asanas
- ✓ Pranayam
- ✓ Concentration and Contemplation

i.e. Meditation

(e.g. – Transcendental Meditation, Raj yoga Meditation)

The present study aims to access the impact of yogic training on modification of risk factors for H.T. like anxiety, depression, anger and to access the impact of relaxation exercise on H.T. and Heart Rate (H.R.).

: MATERIAL AND METHODS :

SITE :	Universal Heart Healing Center, Shri M. P. Shah Medical College, Guru Govind Singh Hospital, Jamnagar, Gujarat, India.
PERIOD OF STUDY :	2 Months
NO. OF PATIENTS :	20
DURATION :	60 Minutes Daily For 5 Days a Week For 2 Months
INCLUSION CRITERIA :	Aged 40 – 70 Years Male Patients (Regular Attendance) Confirmed Cases of Essential H.T.
ACCORDING TO JNC 7 REPORT 6	Normal SBP ‹ 120 mm Hg DBP ‹ 80 mm Hg
EXCLUSION CRITERIA	Aged ‹ 40 Years › 70 Years Female Patients as they are not able to follow regular training due to their inconvenience.

TABLE : NAME AND DURATION OF VARIOUS ASANAS INCLUDED IN YOGA[7,8]

Sr. No.	Name of Asanas	Duration (In Minutes)
1	Aumkar	4
2	Tadasan	2
3	Ardha Katichakrasan	2
4	Stretching Exercise	15
5	Deep Breathing Exercises (Pranayams)	5
6	Meditation in Sukhasan	5
7	Shavasan	10

8	Relaxation Technique	10
9	Auto Suggestions	2
10	Prayer	2

At last, group discussion and sharing of feelings.

Basal Recording were taken in sitting posture after 10 minutes of rest in chair.

Systolic Blood Pressure (S.B.P.) and Diastolic Blood Pressure (D.B.P.) were recorded by Sphygmomanometer.

Heart Rate (H.R.) was taken. Pulse Pressure (P.P.) (S.B.P. – D.B.P.) and Mean Blood Pressure (M.B.P.) = (D.B.P. + 1/3 P.P.).

H.R. and B.P. were recorded before start of Yoga Training, after 1 Month and at the end of 2 Months of Training.

RESULT AND OBSERVATION

The mean {± Standard Deviations (S.D.)} age of patient group was 60.65 ± 9.54 Years and mean weight was 73.4 ± 12.14 Kg.

Significant decrease in Systolic & mean blood pressure after the end of the first month. And Further decrease was statistically significant at IInd month of the training period. The significant decrease in heart rate was found at Ist month. Subsequently it shows progressive and statistically significant decrease at IInd month also.

TABLE : PARAMETERS OF 20 SUBJECTS STUDIED, AFTER YOGA TRAINING FOR 2 MONTHS

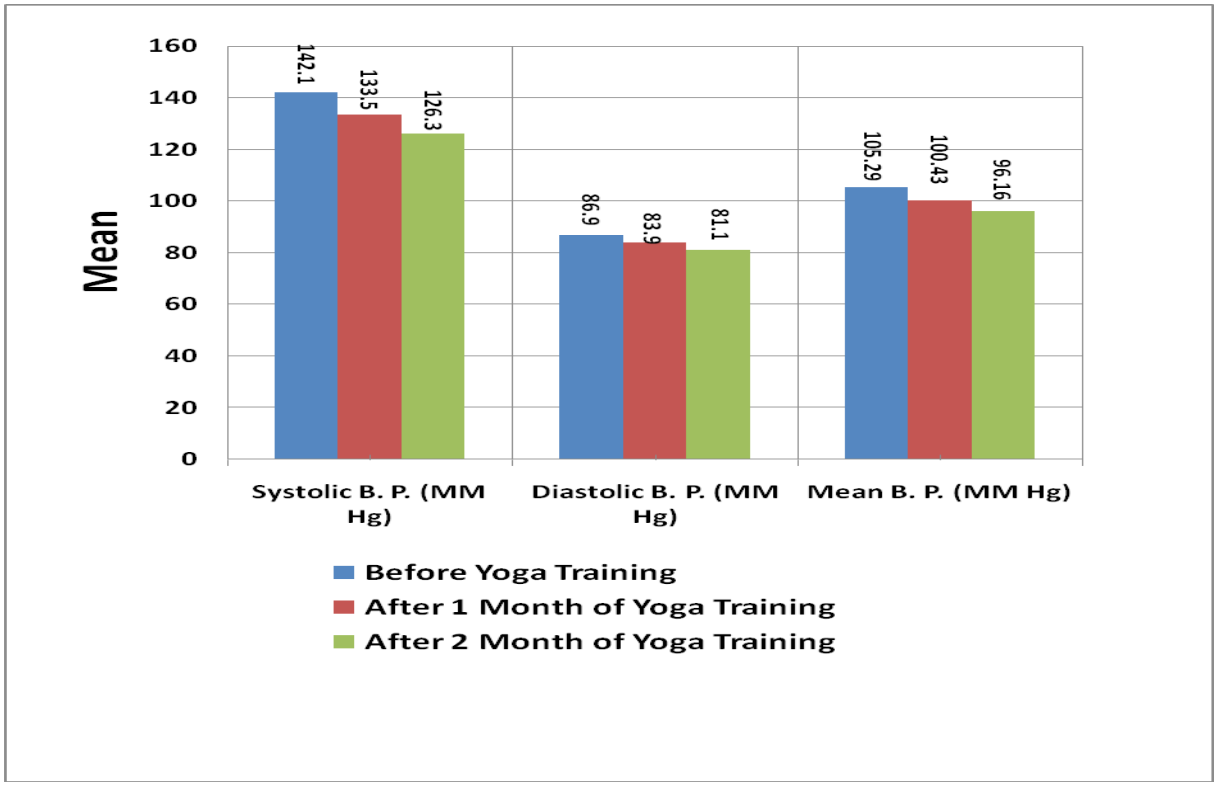
Parameter	Before Yoga Training	After 1 Month of Yoga Training	After 1 Month Level of Significance with before Training Values	After 2 Month of Yoga Training	After 2 Month Level of Significance with before Training Values
Heart Rate (Per Minute)	80.2 ± 10.3	74.5 ± 9.46	Significant*	70.4 ± 9.24	Significant*
Systolic	142.1	133.5	Significant*	126.3	Significant*

Blood Pressure (MM Hg)	± 16.96	± 15.8		± 14.35	
Diastolic Blood Pressure (MM Hg)	86.9 ± 7.9	83.9 ± 7.55	Not Significant	81.1 ± 7.15	Not Significant
Mean Blood Pressure (MM Hg)	105.29 ± 9.08	100.43 ± 8.57	Significant*	96.16 ± 7.96	Significant*
Body Weight (In Kg.)	73.45 ± 12.14	72.30 ± 10.06	Not Significant	71.15 ± 10.27	Not Significant

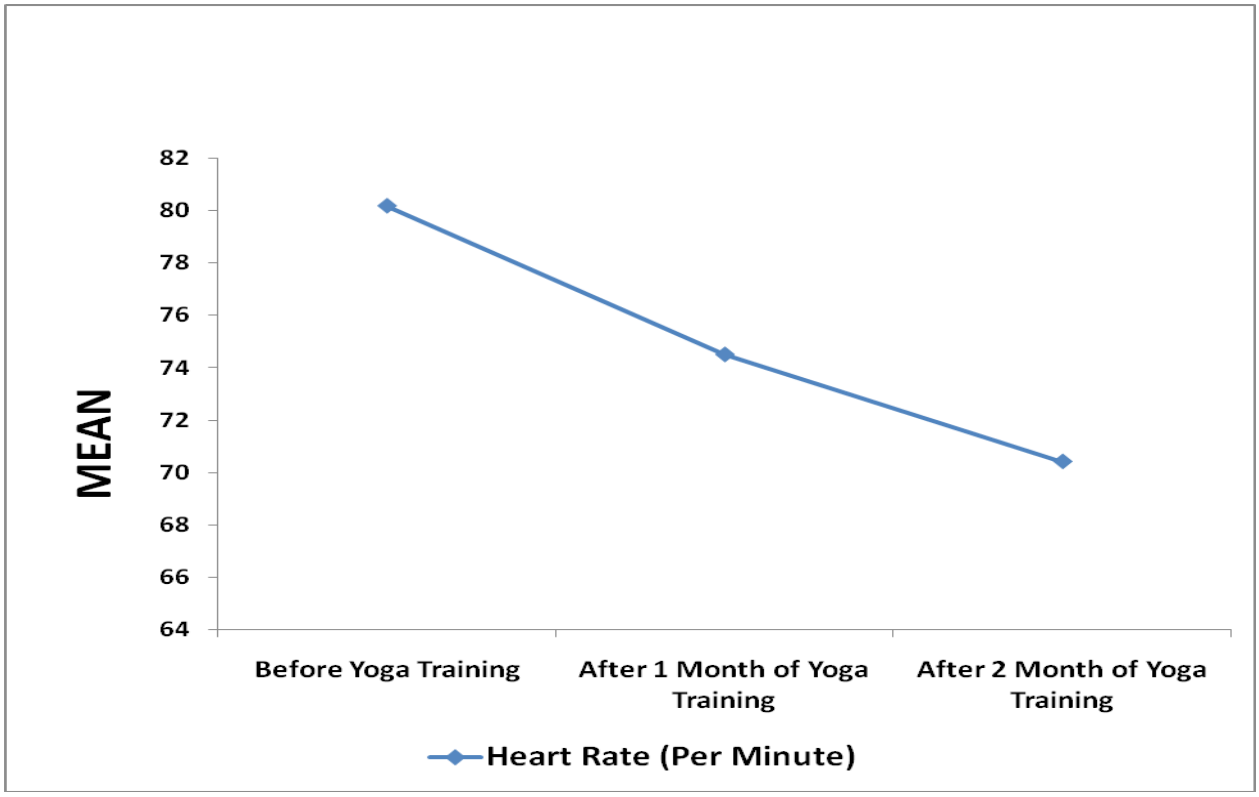
*P < 0.05

GRAPHS :

1. Impact of Yoga Training on Mean S.B.P., D.B.P., M.B.P.



2. Impact of Yoga Training on Mean Heart Rate.



Our results indicate that with the practice of yogic exercises for a period of 2 months, there was significant ($P < 0.05$) decrease in levels of H.R., S.B.P., M.B.P. and D.B.P. and body weight decreases but both did not show any statistical significance at 5% level.

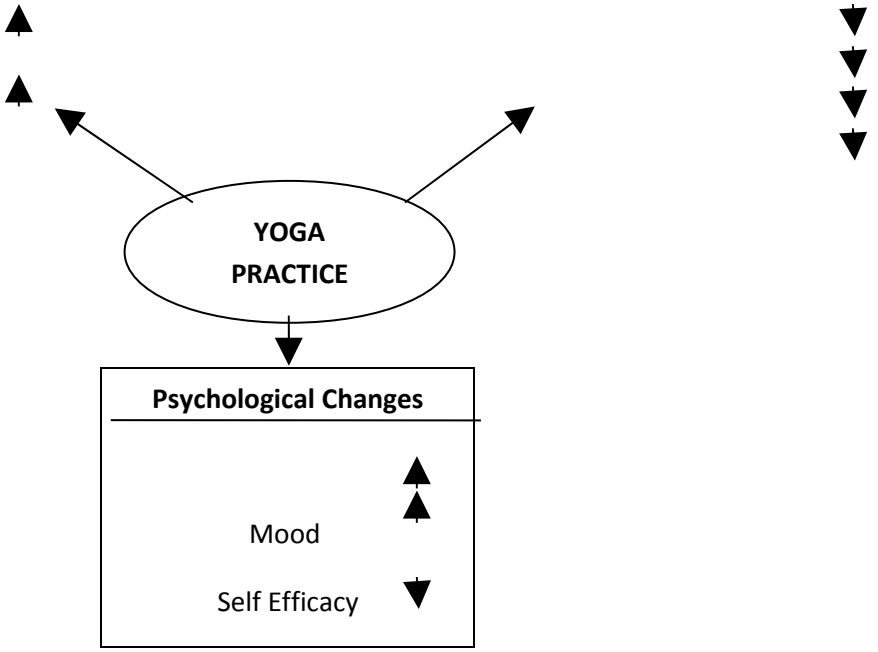
DISCUSSION

The present study was initiated on the hypothesis that sustained high B.P. in essential Hypertensive patients is basically due to inherent stressors beyond any organic disease of heart or blood vessels.

Yoga helps to build up physical resistance, emotional harmony and balance through eradication of root cause in mind.

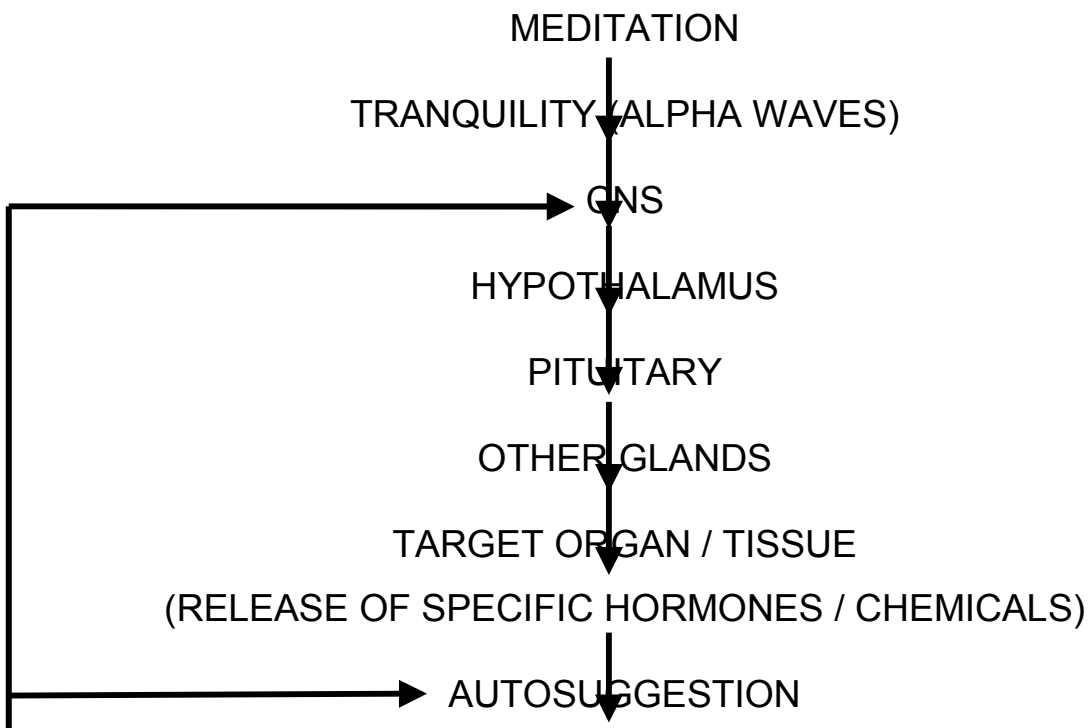
Asanas and Pranayams helps in process of self healing[9]. The possible effects of yoga on behavioural, psychological and physiological measures are illustrated in figure below[10]:

Behavioral Changes	Physiological Changes
Physical Activity	Body Weight Blood Pressure



Relaxation Techniques, these incorporate desensitizing autosuggestion and deconditioning so as to remove mental tensions and complexes. These practices help to cultivate a positive attitude towards life and oneself.

BIOFEEDBACK THROUGH AUTO SUGGESTIONS DURING MEDITATION[7]



It is evident from other studies that six weeks treatment with yoga relaxation produces a significant reduction in blood pressure[11]. Yogic Training produces

decrease in blood pressure associated with improvement of baroreflex sensitivity and attenuation of sympathetic and renin-angiotensin activity[5].

GROUP DISCUSSION AND SHARING FEELINGS :

This may not result in finding a solution but does lead to decrease in stress response of participants and brings about substantially the benefits of healing.

All of the above yogic practices aid in the cure of H.T. as follows:

- ✓ The respiratory rate and heart rate are lowered, and whole body enjoys deep rest.
- ✓ In this state the blood vessels dilate and oxygenated pure blood reaches the body organs, rejuvenating and repairing damaged tissues and maintaining healthy tissue.
- ✓ Reduces mental tension.
- ✓ Helps in rebalancing and enriching our supply of Prana.
- ✓ Removes the effect of stress and leads to increase in vitality.
- ✓ Reharmonizes the endocrine chakra complex.
- ✓ Helps in readjusting the life style and restrengthens the whole body – mind complex.

CONCLUSION

As no ideal drug or methods has so far been discovered in science which would destroy or neutralize the offending factors but would not harm the normal tissues; this type of non – invasive, non drug induced practice should be advocated by physicians as it reduces the amount of medication and may prevent its long term adverse effects.

Being the house of vegetarianism and yoga; India should lead and teach the world in devising methods, to prevent and control rather than cure, menace of H.T. and help in saving precious lives and lessen the burden on already limited health resources.

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Abstract :

Aims & Objectives : To prepare a health profile of children aged 5-13 years studying in Municipal Corporation schools of Ahmedabad & to correlate various morbidities with age & sex of the child.

Study Design : Cross sectional descriptive study

Sample Size : 513 students from various primary schools of Ahmedabad Municipal Corporation (AMC) aged 5-13 years.

Study period : April 2008 to June 2008

Statistical Analysis : Simple proportions , Mean , Standard deviation

Result : Mean age of children was 9.17 years with SD of 7.6.Mean age of males being 9.43 with SD 7.73 & mean age of females was 8.46 SD being 10.05. Majority (60 %) of children had no morbidity. Regarding the various morbidities, ENT problems contributed greatest share 86 (16.8 %) , proportion of cases being much higher in males. ENT , Oral & Ophthalmic problems affected mainly children in 8-10 years age group while worm infestation was more among children in age group of 5-7 years.Regarding the Ophthalmic morbidities, main cause was refractive errors. Acute Suppurative Otitis media was the main cause of ENT morbidity.

Key words : Health profile , Common Health Problems, Municipal Corporation schools

Introduction :

School Health Programme is an important aspect of any community health programme.About 40 % of the total population consists of children less than 15 years of age [1] . Many Infectious diseases like diarrhoea, ENT diseases , Worm Infestations are extremely common in children. Certain problems like refractive errors are best treated if detected early in life. As children occupy major portion of the population of the country & also belong to the age group in which good healthy lifestyles could be inculcated, it's all the more important to impart them with right knowledge at the right time[2].

Keeping these things in mind we have selected this topic of studying the health profile of students as well as giving them advice regarding hygiene as children are very receptive to advice given by doctors .Even they can act as messengers in spreading the various messages regarding health education to public.

Methodology

The study was conducted at 7 schools of Ahmedabad Municipal Corporation which were randomly selected. A baseline survey was carried out amongst 513 randomly chosen students aged 5-13 years. The students were examined by medical students & Interns & the morbidity data was collected on a pretested predesigned proforma.

Results :

A total of 513 students from various primary schools of Ahmedabad Municipal Corporation aged 5-13 years were studied & their health profile was prepared.

Mean age of children was 9.17 years SD being 7.6. Mean age of males was 9.43 SD being 7.73 while mean age of females was 8.46 with SD of 10.05. Sex ratio in age groups 5-7 years, 8-10 years & 11-13 years was 483, 560, 818 females per 1000 males respectively.

Majority of children 308 (60.04 %) had no morbidity. Of the approx. 40 % morbidities, ENT problems contributed the greatest share 86 (16.76 %) followed by oral problems 50(9.7 %) & Ophthalmic problems42 (8.18%) & proportion of cases were much higher in males as compared to females. Main reason for this discrepancy may be due to less number of female students attending the school.

ENT , Oral & Ophthalmological problems affected mainly the children of 8-10 year age group while worm infestation was more in children of 5-7 year age group. Regarding ophthalmological morbidities, main cause was refractive errors 15 (36.72 %), followed by Vitamin A deficiency 14 (33.3 %) & conjunctivitis 13 (30.95 %). Regarding ENT morbidities main causes were Acute SuppurativeOtitis Media 26 (30.23 %) followed by Epistaxis 22 (25.59 %). Most affected age group for ENT problems was 8-10 years 37 (16.9 %). Even for oral & ophthalmic problems 8-10 year age group was the most affected group.

Table I : Agewise distribution of various causes of morbidity

Sr. No.	**Morbidity**	**5-7 years**	**8-10 years**	**11-13 years**	**Total**
1	Ophthalm. Problems	16(23.9)	18(19.6)	8(17.4)	42
2	ENT problems	24(35.8)	37(40.2)	25(54.3)	86
3	Oral problems	15(22.4)	27(29.3)	8(17.4)	50
4	Worm Infestation	12(17.9)	8(8.7)	5(10.9)	25
5	Skin problems	00(0)	2(2.2)	00(0)	2
	TOTAL	67	92	46	205(100)

Table II : Sexwise Distribution of various causes of morbidity

Sr. No.	**Morbidity**	**No. (males)**	**No. (Females)**	**Total**
1	Ophthalm. Problems	36 (22.2 %)	6 (13.9 %)	42
2	ENT problems	71 (43.8 %)	15 (34.9 %)	86
3	Oral problems	38 (23.5 %)	12 (27.9 %)	50
4	Worm Infestation	17 (10.5 %)	8(18.7 %)	25
5	Skin problems	0 (0 %)	2 (4.6 %)	2
	TOTAL	162	43	205(100)

Table III: Information regarding causes of Ophthalmic morbidities

Sr.No.	Ophthalmic Condition	No. of cases	%
1	Vitamin A Deficiency	14	33.4
2	Conjunctivitis	13	30.9
3	Refractive errors	15	35.7
	Total	42	100

Table IV : Information regarding causes of ENT morbidities

Sr. No.	ENTProblems	No. of cases	%
1	ASOM	26	30.2
2	CSOM	19	22.1
3	Epistaxis	22	25.6
4	Rhinitis	19	22.1
	Total	86	100

Discussion :

In our study ENT problems contributed to 16.76 % of the cases which was slightly less than the study conducted by Pandey et al. where the prevalence of ENT problems was 22.03%[2.] . & the distribution among males & females was 11.1% &21.8% respectively.

while the male female distribution in our study was 34.63% & 7.31% respectively.

The prevalence of worm infestation in our study was 4.86 while it was 16.10 % in the study conducted by Pandey et al[2]

Regarding ophthalmic problems , Conjunctivitis contributed to only 0.84 % of morbidities while in our study , it contributed to 30.95 % of ophthalmic

morbidities.Prevalence of Vitamin A deficiency in age group of 5-7 years is 4.54 % which is less than the national average of >6%. ..May be due to regular checkups & treatment of the students of these schools by doctors.. Maximum ophthalmic morbidity (33.35 %) is attributed to refractive errors. If detected & corrected early it can prevent further complications & discomfort.

Conclusions & Recommendations:

From the study, it is evident that female education rates are quite low. Main intervention which can be effective & feasible is health education & promotion of general measures to improve personal hygiene among children.

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COMMON ASSOCIATION OF NEURO-CARDIO SYMPTOMATOLOGY IN MITRAL VALVE PROLAPSE PATIENTS :

A STUDY OF 240 MVP PATIENTS WITH VARIED NEURO AND CARDIO CLINICAL PRESENTATIONS

Dr Jayesh Raval, Dr Pragna Raval

Introduction

Mitral valve prolapse (MVP) is an echocardiographic finding which is frequently associated with cardiovascular symptomatology. In fact these symptoms are variable in nature and it constitutes a syndrome like presentation. These patients exhibit some neuro psychiatric presentation also. This study highlights frequent coincidence of neuro cadio symptomatology in MVP patients. Panic attack is the most common associated clinical presentation .

Material and methods

From july 2000 to july 2002 , total of 240 patients were evaluated in echocardiography laboratory and were found to have mitral valve prolapsed by echo criterion. These patients were evaluated for presenting symptoms. Neurological and psychiatric symptoms include sighing respiration, cold extrimities, tremulousness , excessive sweating , fear and undue anxiety, hot flushes and atypical chest pain . cardiovascular symptoms include angina like

chest pain, palpitations, syncope , pre syncope, postural hypotension and dizziness. Exact incidence of these symptoms have been summarised in table -1.

Table -1 Panic Attack Presentations in MVP

		Male	female
1	Shortness of breath	71	106
2	Repetitive sighing respiration	41	120
3	Dizziness , unsteady feeling	68	104
4	Faintness but no injury sustained	33	128
5	palpitations	106	110
6	Trembling or shaking	96	79
7	Sweating , more so in palms	136	91
8	Choking sensation	124	40
9	Abdominal pain and repetitive diarrhoea	33	87
10	Hot flushes or chills	31	75
11	Atypical chest pain	71	104
	four or more presentations suggest panic attack		

Discussions

Mitral valve prolapse and cardiac dysautonomia frequently co exist. MVP syndrome has been named differently by different authors. Prevalence in general population varies from 3 to 5 percentage. However some studies evaluating broader echo criteria for MVP diagnosis has reported incidence 6 to 17 percentage, more so in females. Overall male to female ratio reported is 2:1 .

A large majority of patients with MVP will remain asymptomatic for years together . But some clinician informing them about click –murmur (which they have) and diagnosis of MVP will induce undue anxiety in many patients. Once they know about some different valve morphology in their heart , they frequently present with non specific symptoms and argue attributing their ailment to MVP . Easy fatigueability , burning out in the evenings, giddiness on slight exertion and also tremulousness. At times they exhibit frequent ventricular premature beats and hence palpitations are reported as common symptom.

Typical MVP syndrome patient is thin , small body mass , blood pressure is often low and pulses are irregular . many of these patients have skeletal thoracic cage variations namely straight back syndrome, small anteroposterior diameter , pectus excavatum or scoliosis. Here heart shadow on chest x ray appears tear-drop, or vertical . these patients have extra long valve apparatus and a small ventricular cavity. This phenomenon is called as ` valvulo- ventricular disproportion'. During systole , when LV cavitysize reduction reaches a threshold low volume, the valve apparatus buckles and folds itself into left atrium. This buckling and folding produces classical click in to mid systole and –murmur follows -- a hallmark finding in MVP.

Syncope, presyncope, palpitations and chest discomfort are frequently complained. Symptoms increase in duration and frequency during periods of stress. It has been suggested that many of these symptoms originate from dysfunction of autonomic nervous system.

Chest discomfort at times appear very close to anginal character but mostly chest discomfort is atypical, lasting for hours together , not typically related to exertion , it may have sharp – stabbing character and no radiation to other sites . There are no hemodynamic abnormalities during this atypical chest pain. It has been explained on the basis of abnormal tension on papillary muscles.

Shortness of breath and repetitive sighing respiration is complained in females of MVP diagnosis. This is the most common neuro psychiatric symptom. Ladies frequently faint , more so in presence of relatives and conspicuously there are no injuries.

Palpitations are episodic, short in duration with spontaneous termination. Some patients may come with ECG proof of supraventricular tachycardia(SVT). Sweating more seen in palms and choking sensation is more predominantly seen in males. Like wise , tremulousness is also more in males.

Diastolic depolarization of myofibres at base of papillary muscles are commonly seen in MVP patients (due to stretch on papillary muscles.). Even resting sinus tachycardia is common in MVP patients. Abnormal late potential activity is also seen in signal averaged ECG . They may account for frequent arrhythmic problem in MVP .

More than 38 % of patients with MVP have features of panic attack. It must be emphasized that treatment of panic attack will be sufficient enough in this benign condition . Information about valvular abnormality will only add to the anxiety level of these patients. Hence clinicians should exercise their full judgement in informing patients about MVP diagnosis.

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IS MYOPIA MORE COMMON IN URBAN THAN RURAL AREA?

A COMPARATIVE STUDY

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Abstract:

Aims: To measure the prevalence of acuity of vision for far vision of urban and rural /country side school students aged 7-15 years among boy and girls and to explore the prevalence of myopia and compare among both groups.

Methods: the Snellens' charts were used to assess the far vision. Visual acuity of worse than 6/12 in either eye was taken as end point, the study was carried out in urban school set up and rural set up.

Results : 69 (15.9%) students of urban group and 17[4.1%] of rural group had myopia. Myopia was significantly more among urban group than rural group.

Conclusion: The prevalence of myopia is more among urban group than rural group and is consistent with finding of those reported in other parts of India and other parts of world. More research is required to find the cause effect relationship. We have just begin to understand the physiological mechanism of myopia especially retinal and other neuro humeral modulating factors and other growth factors regulating the size and shape of sclera and eye ball. Future we expect some novel methods for prevention and treatment of myopia. This will have major impact on VISION 2020 program

Keyword : Myopia, schoolchildren, screening, Ahmedabad – country side prantij

Introduction:

Since VISION 2020 was launched in 1999, controlling blindness and preventing and treating refractive errors among children has been a high priority. Refractive errors are more prevalent in Asian countries than other regions of the world. The myopia, which increases with increasing age, is the commonest refractive error in children. The current thinking is that myopia is caused by environmental factors, and that outdoor activity may protect children from myopia. In urban set up, day by day children use more indoor games, video and computerized games and television. The internet use is also increased. And this leads to significant load and stress-strain on eye and impose a tremendous amount of “near point stress “on the eyes. This affects the focusing muscles and can make the eyeball go out of shape. Though in certain cases poor nutrition and genetics factors can play some role in genesis of myopic states.

Myopia is one of the most common visual disorders affecting both children and adults. Some people believe that there is epidemic of myopia. Myopia more likely affects Eastern Asians, particularly the Japanese and Chinese population. A higher prevalence of myopia in urban settings, compared with rural settings, has been consistently suggested in several studies. This article intends to compare data on the prevalence of myopia in urban rural school going children. A high degree of myopia further increases the chance of developing irreversible visual impairment due to pathologic changes in the retina and increased risk of glaucoma and cataracts. Uncorrected refractive error especially is a significant cause of avoidable visual loss and should be considering as prioritized eye diseases of vision 2020:

In myopia the eyeball is too long. Parallel rays of light, coming from a distance, are brought to a focus, consequently, before they reach the retina, the victim sees only an out-of focus blur when he looks at a distance. Concave glasses cause the light rays to diverge before entering the eye and serve to bring them of a focus on the myopic retina, correcting the near- sightedness. The abnormally long, myopic eyeball is filled with a larger volume of fluid than the normal eye.

Material and Method:

A school-based survey of myopia in one urban and one rural based set up was conducted. Remote country side rural school was chosen as country side school .This is a comparative study, conducted among the school children in the age group of 7 to 15 years old. Children were belonged to different socioeconomic class. All students were examined with Snellen’ s visual acuity chart for far vision/Distant . From 6 meter distance, the student was shown 6/6 – snellen’s chart. The child either declared eye sight good if distant vision in 6/6 in both eyes or eye sight not good if vision is 6/12 or worse in either eye…First, the right eye was tested and then the left eye, both without [uncorrected visual acuity] and with [presenting visual acuity] spectacles, if the child brought them. Teachers and students were told about the defect.

Emmetropia was defined as a spherical equivalent between -0.5 and +0.5 diopter sphere. Myopia and high myopia was defined as spherical equivalent les than -05 and -5 respectively. Hyperopia was defined as a spherical equivalent greater the +0.5 DS.

Results:

A total of 432 students from primary and secondary urban school and total of 417 students from rural school were studied. The age of the student ranged from 7 to 15 years. There were no significant differences in myopia found between boys and girls. Vision observed from range from 6/5 to 6/60. The distribution of myopia among urban and rural students is summarized in table no. 1 and suggest that the prevalence of defect was significantly higher among urban group.

($p < .005$)

Table 1

Zone	Urban N1	Rural N2
Total no. of participants	434	417
No. of students with vision worse and equal to 6/12	69	17
Percentage	15.9	4.1
P value	<0.005	<0.005

Statistical tests: statistical tests carried out were comparison of standard error of difference between proportions. The chi-square[x2] tests were done and p value was calculated to confirm the significant of test- results.

Discussion:

The study documented the fact that there higher prevalence of myopia in urban settings, compared with rural settings, has been consistently suggested in several studies and this study also confirmed that prevalence of myopia is more among urban than rural school going children .Similar findings are Consistently reported in several studies.

In this context, certain myopigenic environmental risk factors because the education, socioeconomic, and nutrition status of the people should also tend to be different in urban and rural environments. The one study in Xiamen found that children in the city spend more time on near-work activities and less time on outdoor activities outside school than children in the countryside and rural area and conclude that the time spent outdoors was identified as the most significant factor preventing myopia. The distance of close-up reading and intensity (continuous reading) were important independent risk factors. These studies underscore the need for quantifying not only the time spent on near-work but also the intensity and distance.

Outdoor activities have been increasingly recognized as a protective factor for myopia .The recent work based on 6- and 12-year-old Australian children further confirms the protective effect as total time spent outdoors rather than sport per se. children living in rural environment may have more outdoor space and better accessibility to outdoor activities; this may in part explain the relatively lower rate of myopia as well. Interestingly; one recent report based on 12-year- old Australian children demonstrated the independent effects of higher population density (apartment-style housing) as a risk factor for myopia independent of near work and outdoor activities. This study is one of several that document the independent effects of the urban environment on myopia.

Large numbers of theories have been proposed for causation of myopia including hereditary. The nutrition and dietary deficiency as a cause of myopia including salt and water imbalance have been suggested but never found a significant factor. A study of Theories about myopia progression (STAMP) is very popular and suggests the myopia is based on environmental factors such as extended near work. The theory is about INCREMENTAL RETINAL DEFOCUS THEORY i.e. IRDT and able to explain all results. It is based on NITMS, or NEAR-WORK INDUCED TRANSIENT MYOPIA. This theory is based on a relatively simple and direct mechanism for the regulation of ocular growth. Theory state that a time averaged decrease in retinal-image defocus area effect the rate of release of retinal neuromodulators, which alter the rate of

retinal proteoglycan synthesis with an associated change in sclera structural integrity. This increases the rate of sclera growth, and in turn the eye's axial length which leads to myopia.

In addition, the theory bas been able to explain how repeated cycles of near work – induced transient myopia leads to repeated periods of decreased retinal-image defocus. The cumulative effect over an extended period of time results in increase axial growth of sclera and lead to permanent myopia.

At present some environmental factor single or in combination genetic disposition work together to develop myopia in urban children.

Conclusion:

Study documented the fact that the urban children are prone to develop myopia. Large number of environmental factor play a role and more specific factor is still to find and more research is recommended to establish why urban children develop more myopia than country side children the cause effect relationship. If VISION 2020 a priority program is to made successful the area need special attention. Some problem to tackle in this field are barriers to the use of spectacles include parental awareness of vision problems, attitude toward the need for spectacles, cost. The health education is a crucial. Misbelieves i.e. wearing glasses may cause myopic progression.. Should be clarified and all myopic both boys and girls should be motivated to wear glasses or contact lenses. High quality optometric service should be uniformly available and accessible to children with an effective school screening program. There should be spectacle provision to all needy children prevent further progress of condition. We have just began to understand the retinal neuro humeral modulating factors responsible for abnormal growth of sclera and eye ball responsible for myopia and expect and hope some newer modality of method for prevention and treatment of myopia

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REVIEW ARTICLES

USE OF PROSTHETIC MATERIALS IN CARDIAC SURGERY WITH SPECIAL REFERENCE TO PENTALOGY OF CANTRE

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Keywords : Cantrell's pentalogy, sternal defect, oomphalocele

Abstract

Use of prosthetic materials has not only helped but revolutionalised surgery especially cardiac surgery. Various types of patches are now available to match the needs of the various types of cardiac surgery performed today. Use of prosthetic patches has not only met the demand of day to day cardiac surgeries like ASD, VSD but also helped in repair and better survival of complicated surgeries like repair of Pentalogy of Cantrell.

Pentalogy of Cantrell is a rare congenital syndrome associated with very dismal outcome after surgical correction even in today's era of development and technical advancement even in developed countries. The syndrome was first described by Cantrell in year 1958. It includes supra umbilical body wall defect, sternal defect, deficiency of anterior diaphragm, deficiency of

liaphragmatic pericardium and intracardiac anomalies. The major cause of mortality and morbidit
hese patients is difficulty in weaning from ventilator, prolonged duration of ventilation and length o
tay.

Various methods have been devised to increase the survival rate in this group by changing the
urgical strategies which include use of patient's own tissue such as fascia lata, dura mater, rectu
nuscle and use of prosthetic materials like polypropylene mesh, mersilene mesh, PTFE membran
with an aim to provide cover for deficient diaphragm, sternal defect, supra-umbilical body wall defe
without compression on the heart and therefore avoiding hemodynamic compromise. Suture mat
which have high strength are known for causing less infection are used like polypropylene, polyes
or suturing the prosthetic materials, oomphalocele repair and for intra-cardiac defects. Stainless
teel or ethibond sutures are used to close the sternal defects.

As crucial problem in Pentalogy of Cantrell is avoidance of intra-thoracic and intra-abdominal
ressures which cannot be tolerated in presence of intra-cardiac anomalies in new born babies, t
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TEXT

Before the advent of prosthetic materials patient's own tissues like fascia lata, dura mater, rectus muscle were utilized to cover the anatomic defects in the human body for defects like abdominal w defects, chest wall defects, diaphragmatic defects etc. This was done with a belief that body will accept these tissues well and chances of infection will be less. Even after advent of prosthetic materials the use was limited to the cases where patient's own tissue was not available or had be utilized in the previous surgery i.e. there was no other option than to use prosthetic materials.

During early era of development of cardiac surgery autologous pericardium was utilized for closing ASD, VSD and correction of other defects like patch repair of pulmonary stenosis, rerouting of VS o aorta in DORV etc. Pericardium was found to be unsuitable for repair of some of the defects or unavailable as in redo surgeries, for which prosthetic patches were considered a better choice. N prosthetic patches are being used for most of the intra-cardiac repairs like ASD, VSD, intra-cardia unnel repair of DORV, patch repair for tetralogy of Fallot, patch repair of aorta, enlargement of ao oot. Tube grafts for vascular surgeries like aorto-femoral bypass, coarctation of aorta, root eplacement surgeries, shunts e.g. BT shunt and coronary surgeries. It is also used to cover the h f expecting a second surgery, congenital defects like sternal wall defect, chest wall defect, diaphragmatic defect, abdominal wall defects.

Most common material used for intra-cardiac surgeries like VSD, ASD, rerouting of VSD to aorta Dacron patch. Dacron tube grafts are used in fontan operation, aorto-femoral bypass and other vascular bypass. PTFE is also used extensively in cardiac surgery e.g. PTFE patch for repair of inus of valsalva, monocusp in patch repair of pulmonary stenosis, PTFE tube grafts for shunts,

coronary surgery, aorto-femoral and other vascular bypass surgeries. Other materials used for the ame purpose are bovine pericardial patch and tube grafts. These are also used to cover the ches wall defects, abdominal wall defect, sternal defects etc. Prolene mesh has been used extensively nguinal hernia surgery is also used to cover the sternal wall defects, abdominal wall defects and liaphragmatic defects.

Marlex is a trademarked name for "crystalline polypropylene" and "high-density polyethylene" HDPE). These plastics were invented by J. Paul Hogan and Robert Banks, two research chemist he Phillips Petroleum company. Marlex was used by Wham-O for their Hula Hoops in the 1950s, which helped create a market for this plastic. It is a monofilament , non-absorbable, inert, sterile a porous mesh with approximate thickness of 0.44mm. It has been used surgically as a reinforcing mesh in inguinal hernia repair and now is also used to cover abdominal wall defect in oomphaloce sternal defects and diaphragmatic defects.

PTFE was discovered by Robert W. Gore (Bob) in 1969 while researching a process for stretchi extruded PTFE into pipe thread tape when he found that the polymer could be “expanded” which known today by the name of ePTFE (expanded poly tetra fluoro ethylene) or Gore-Tex patch and used widely for closing intracardiac defects and extra-cardiac purposes. The ePTFE mesh is a 1r hick mesh strong, soft, inert, ensures early fixation to the host tissue with minimal foreign body eaction.

Patient’s own tissue can be used if there is a single defect like there is isolated abdominal wall de or isolated sternal defect or isolated diaphragmatic defect. One cannot imagine what to do if all th defects are present in the same patient. Pentalogy of Cantrell presents such a challenging situat o the cardiac surgeon.

Pentalogy of Cantrell continues to be a rare congenital ventral midline syndrome occurring 5.5 – 7 per million live births with preponderance for male child. The pentad first described in 1958 by Cantrell, Ravitch and Haller[13] includes the supra-umbilical body wall defect, sternal defect, deficie of anterior diaphragm, defect of the diaphragmatic pericardium and the intra-cardiac anomalies.

Ectopia cordis is the displacement or eventration of the heart through the abdominothoracic wall defect - cervical, thoracic, thoracoabdominal, or abdominal types with worst outcome for the thora ype of defect.

Trisomy 18, cleft lip, with or without cleft palate and encephalocele, exencephaly and limb defects have been reported in literature to be associated with ventral midline anomalies. The intracardiac defects range from simple ASD, VSD to TOF, DORV, univentricular heart, left hypoplastic sundro

runcus arteriosus, dextrocardia, pulmonary valve stenosis, anomalous pulmonary vein connectio
An associated LV apical aneurysm has been reported in several cases.

This syndrome occurs as result of abnormal formation and differentiation of ventral mesoderm at
18 days of fetal life. Based on the basis of embryological development, it can be classified into tw
groups.

Group 1- arises as the result of developmental failure of a segment of the mesoderm and compris
three of the defects:

Diaphragmatic defect (which results from total or partial failure of the transverse septum to
develop)
Pericardial defect (which is closely related to faulty development of the transverse septum

Intracardiac lesions (which is the result of faulty development of the epimyocardium, which
derived from the splanchnic mesoderm)

Group 2- includes the sternal and abdominal wall defect and appears to arise due to failure of
migration of the paired primordial structures.

Toyama classified it on the basis of presence of defects-

Class 1: Exact diagnosis, with the five defects present

Class 2: Probable diagnosis, with four defects (including intracardiac and abdominal wall defects)
present

Class 3: Incomplete diagnosis, with combination in the defects (always accompanied by sternal
defects)

Survival is poor in untreated patients. Outcomes in surgically treated patients also remains very
dismal. It is because of poor prognosis that this group is left to its fate even at some good institut

The parents have been seen to step back for treatment of this condition because of the dismal esults[11,12.] They have even withdrawn care in case of prolonged ventilation in some cases which continues to be the most dreaded complication after cardiac repair in patients with cantrell's pentalogy [1]. The post-operative care is often complicated by sepsis and malnutrition in these case

The parents of these patients are usually given negative prognostication about the condition and babies are mostly deemed inoperable because of the dismal outcome involved.

There is disheartening mortality and morbidity invoved in these case reports. The largest series h been reported by Jaime F.Vazquez – Jimenez et al in 1998 which included 153 patients[5] which ncludes 61 patients reported by Toyama and 92 others. Out of these information regarding sex w available only in 80patients(53%) with 57.5% (46) were male and 42.5%(34) were female with a a atio of 1.35:1. Sternal malformatios were reported in 91patients out of which 28.6%(26) had defe ower half of the sternum, 26.4%(24) bifid sternum, 9.9%(9)absent xiphoid, 8.8% (8) had absent lo wo-third of sternum, cleft xiphoid in 8, short sternum in 8 and complete sterna aplasia in 4.4%(4) patients. Although spinal deformities were not reported in all the cases, two patients with scoliosis and severe kyphoscoliosis have been reported. Abdominal wall defects were present in 114 patie most frequent being oomphalocele in 63.2% (72) patients. Diastasis recti was found in 13.2% (15, epigastric hernia in 10.5%(12),umbilical hernia in 7%(8))and combined defects in 6%(7)of the patients. Diaphragmatic defects were reported in 87patients with ventral defect being most comm n 90.8%(79), absent left diaphragm in 3.4%(3), complete aplasia of diaphragm and other defects .7%(5) patients. Intracardiac defects were present in 127patients with incidence of complex defe eing 51%(64) and VSD being the most common defect in 72% (92) patients. Associated craniofa nd limb deformities were present in 28%(43) patients.

Age was a significant prognostic factor in this series, mean age being higher for the survivors. Ou 53 patients 57 patients survived (37.3%, 79 died(51.6%) after operation while 17 patients (11.1% ave not been reported. The mean age at operation was higher for survivors (4.1years)than non- urvivors(0.7years). The over-all reported survival of thoraco-abdominal ectopia cordis has impro o 61%(11 patients out of total 18 operated) after 1980 [2,5] . All the non-survivors 7(39%) had peration on 1st day of life, while mean age of survivors was 9months. Cause of death was espiratory insufficiency and failure to wean from the ventilator in two patients, heart insufficiency urgery in one patient, complex cardiac conditions in other patients.

Therefore repair of Cantrell's Pentalogy poses a challenge because of wide spectrum of anomali everity of abdominal and cardiac malformations and post-operative issues. The pre-operative ch -Ray may show the lack of growth of chest wall. Dissecting the ribs and cartilages in such cases

may add to the burden on the child and cause more morbidity. In such patients utilizing prosthetic materials like marlex mesh, Gore-tex membrane and silo membrane can be beneficial by reducing the operative time and the extensive dissection resulting in less morbidity and less mortality. The post-operative results depend on avoidance of high thoracic and abdominal pressures. The surgic outcome also depends on the degree of the defects, surgical techniques used and the post-opera management and proper nursing.

Sutures which are liable to cause less infection are used for suturing these prosthetic materials as well known that prosthetic materials are more prone for sepsis which can cost dearly to the patien not only with money but also life as newborns and infants are more prone for sepsis. Suture mate used for this purpose are polypropylene (prolene) which is a monofilament synthetic material and least prone to infection. Ethibond is braided polyester not only known for its strength but also for having less infection rate and is mostly used in valve surgeries. Stainless steel wires are also kno to cause less infection and have highest strength among the suture materials to close the sternum

Clodagh S. O'Gorman et al[1] reported a series of seven patients collected from two different centre who underwent surgical correction at a median age of 60days (range 1-11 months). Three patient had Tetralogy of Fallot's, two DORV, one tricuspid atresia and one patient had perimembranous VSD. Four patients survived with three patients weaned from the ventilator. Out of four alive patie two required ventilation through tracheostomy . The mean duration of post-operative ventilation w 12.8days(range 4-335days). Three patients were on prolonged ventilation i.e. more than 100 day Patients who underwent pre-operative diaphragmatic placation required longer duration of ventilation, mean 186.5days. Three patients withdrew care because of failure to wean from ventil and multisystem organ failure at a mean age of 270days(range 165-335days) and mean post-operative day 153.7days(range104-244days). Two patients had cardiac arrest , while one had incorrectable cardiac defect. Maximum number of days a post-operative patient with cantrell's pentalogy has been on ventillation was 485 days, mean 170.4days. Mean length of oxygen requirement was 172.1 days (range 16-485days). Two patients had delayed sternal closure.Numb of sepsis events was in 5 patients with mean of 4.8 (range 1-19).

.Mark Morales[2] reported four cases who underwent surgical correction and all of them survived. They judiciously took the decision of doing a single stage or a two stage repair whenever required and delayed second stage repair for 6months or one year as per the requirement of the defects. Their first patient with thoracic ectopia cordis bilateral skin flaps were used to provide soft tissue covering, which however gave way resulting in flap necrosis and required a rectus muscle covera at 6weeks of age. AT 3months of age she underwent a third surgery for a sweeling over the LV ap which turned out to be an infected sebaceous cyst. At 2years of follow up VSD had closed spontaneously. Their second patient presented with cleft palate, large oomphalocele, severe

ydrocephalus, large diaphragmatic defec,t large ventral hernia and intracardiac defects included DORV, dextrocardia, RVOT obstruction, LV diverticulum. This child underwent surgery for ncephalocele in neonatal period. At 5 month of age, he underwent repair of cardiac anomalies al with repair of diaphragmatic hernia and the heart was reduced into the right chest cavity. At 7mon f age child underwent surgery for ventral hernia and later a VP Shunt. Third patient was a 33wee ld premature baby with large oomphalocele, diaphragmatic hernia, dextrocardia, DORV, VSD, ulmonary stenosis. As a newborn he underwent repir of oomphalocele. At one year of age he nderwent surgery for cardiac defects and diaphragmatic hernia, This child required ECMO for 6d ecause for respiratory insufficiency and is doing well at 6years of follow-up. Fourth patient prese ith tetralogy of fallot's, large oomphalocele and diaphragmatic hernia. This child underwent surg r repair of diaphragmatic hernia and oomphalocele at second day of life. Diaphragmatic hernia epaired using gore-tex membrane securing it with polypropylene suture but the oomphalocele ery large and after reduction of liver, accommodating intestines was a problem hence a silo membrane was used to correct the oomphalocele using polypropylene suture. The child was calle fter one year for corrective cardiac surgery.

hus from above reports the wide spectrum seen in pentalogy of cantrell's can be appreciated wi ecisions to be taken in individual patient according to the presentation. post-operative results epend on the care taken to avoid intra-thoracic and intra-abdominal pressures from rising to avo ardio-repiratory embarrasement and provide good healing for the repair. Polypropylene has bee he suture material of choice for all the authors because of less chances of infection and strength ncreased thoracic and abdominal pressures intraoperatively as well as postoperatively may lead uture dehiscence, flap necrosis and hemodynamic compromise[5]. Intra-operatively this issue is de y modifying the surgical techniques. Some authors recommend staged operations i.e. repairing t hest wall and abdominal wall during the first stage and correcting the cardiac defects after a few months or vice-versa [1, 2.]

roviding a cover for the heart with rectus muscle[2] or with fascia of rectus muscle [5] has also been ried. Alphanso et al tried to cover the heart with Gore-Tex membrane suturing it to the edges of th ternal defect using polypropylene suture, however the child succumbed to respiratory arrest after 8hours of surgery. Other authors have also used Gore-tex membrane to cover the heart[6,7,9] ometimes along with cadaveric skin[7] and sometimes sacrificing phrenic nerve to create space for eart[9] requiring a second surgery for diaphragmatic placation. Covering the heart with skin flaps l lso been tried which may be complicated by flap necrosis and add to the hemodynamic eterioration[2].

Diaphragmatic defects have been closed directly as reported by AMH Korver [10] and Jaime F. Vazc Jimenez [5] with polypropylene . Goretex membrane has also been used for repair of diaphragmat hernia[2] and deficient diaphragm using polypropylene for suturing.

Defect in the sternum has been closed directly in some cases[7] using either stainless steel or ethib polyester) as per the preference of the surgeon. Some of the authors have tried to provide a bony cover by mobilizing the cartilages, ribs and sternal tissue in trying to provide a natural tissue from patient's own body[8] . Marlex mesh and goretex membrane have been used with satisfactory result [7,9] using polypropylene for suturing. AJJC Boggers et al [6] closed the midline thoracic cage defec with soft tissue patch with Gore-tex membrane using polypropylene suture after correcting the car defect but repair of abdominal wall defect was deffered to be repaired after 6months of first surger because of less preperitoneal cavity and to avoid hemodynamic instability. Khalid ssamir et al [8] corrected the sternal defect by mobilizing and dislocating lower three coatal cartilages attached to bifid sternum from costo-chondral junction, deviated them medially and fixed them in place to pro the heart.

Oomphalocele has largely been repaired by mobilizing skin flaps sometimes with good results[1] an sometimes requiring second surgery like rectus flap [2] . Silo membrane has been used for the repai omphalocele[2] which may be the source of in sepsis sometimes. AMH Korver et al[10] used Gore-tex membrane to repair oomphalocele after cardiac correction and delayed sternal closure. Marlex me has been used with good immediate post-operative results.

Abdominal wall reconstruction has been post-poned in some instances because of small preperitoneal cavities and lack of space or hemodynamic instability, though it was earlier planned a single stage[5,6] and a two stage repair seems to be better option for these patients.

Though single stage has also been attempted by some authors[6,8,9] in sporadic cases but the per-operative findings and post-bypass observations should be taken into account to decide whether t attempt the repair of sternum and abdominal wall during the first surgery or not.

We conclude that instead of forceful efforts to provide a bony covering for the heart if the chest w has not grown to the extent of accommodating the heart, use of a prosthetic material like marlex mesh is a better option to achieve the desired result. A water tight compartment of the thoracic an abdominal cavities may not be achievable, instead a more feasible and compatible solution with li should be the aim of correction. Decision should be altered according to the particular situation of child. A single stage correction is possible but depends on the hemodynamics after cardiac correc

and correction of abdominal wall defects should not be hurried if there is enough epithelialisation o the oomphalocele. In case of hemodynamically compromising defects second surgery should be undertaken once child has recovered from period of hemodynamic instability which can vary from few months to a few years. Use of prosthetic materials like polypropylene mesh is recommended reduce the operative time and extensive dissection involved in other techniques which use patient own tissues to cover the defects. This reduces the ventillatory requirement and gives a better outcome in terms of improved survival rate and lesser post-operative stay in hospital in these patients. Use of prosthetic patch and grafts has made surgery and survival possible of not only simpler cardiac defects but also for challenging and complicated operations like Cantrell's pentalo

Abbreviations: ASD – atrial septal defect, VSD-ventricular septal defect, TOF- tetralogy of Fallot, DORV- double outlet right ventricle

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Review Articles

CELLULAR PHONES: ARE THEY REALLY DETRIMENTAL TO HEALTH?

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Abstract:

With the increasing use of cell phones for the past decade or so, the harmful effects caused by the extensive use of cell phones have become a great concern. There has been intensive research completed on this topic which focuses particularly on

brain tumors, cognitive impairment, sleep disturbances, male infertility, etc. However, to date, there hasn't been any conclusive results which support that cell phone usage causes potential health risks. Therefore, the goal of the following review is to provide a brief overview of the epidemiological studies which show that there isn't an association between cell phone usage and health risks.

Introduction:

World Health Organization (WHO), states that at the end of 2009, there were estimated 4.6 billion cellular phones users globally and increasing steadily. Due to extensive and widespread use of cellular phones has led to increased concern about health hazards particularly on brain tumors, cognitive impairment, on fertility, etc. The issue was first made public attention was in 1993, when an individual came forward claiming that his wife's brain tumor was caused by the radiofrequency (RF) radiation caused by her cellular phone. However, the lawsuit was dismissed in 1995 due to lack to scientific and medical support. Since 1993, there have been numerous allegations condemning cell phone as the cause of health hazards.

How do Cell Phones Work?

Cellular phones operate by transmitting radiofrequency (RF) electromagnetic waves (EMW) through fixed antennas called base stations. The RF waves unlike the ionizing radiation such as x-rays or gamma rays cannot break chemical bonds nor do they cause ionization in humans. Cell phones (GSM- Global System for Mobile Communication) work with 900-1900 Hz frequency in USA while in rest of the world it is with 850-1850 Hz. Fundamentally, cellular phones work through 'system of cells'. Each of these cells has their own base station, which receives and emits RF waves. When a caller makes a call, the cell phone emits RF waves, which are received by the base station. From the specific RF channels assigned to cell phone, voice information can be transferred from cell phone to cell base station and using the same mechanism, the waves are further carried to either the local phone or the cell phone. The amount of RF exposure depends on multiple factors including the density of cell base station in a particular geographic area, any physical obstacles between cell phone and cell base station, and off course cell phone quality. Number of cell base stations in a area depends on cell phone traffic in that area. In an urban area, number of cell base station would be obviously high and the distance between cell phone to base station would be less, therefore, the RF waves strength would be less. Inversely in a rural area, every base station would be covering large area and thus require signal strength to be high. Base station is setup in such a way that it would automatically work on minimal required strength of waves. If there is a physical obstacle like tree or building, base station would automatically upgrade

wave strength. Newer cell phones work with less exposure as compared to older ones. RF exposure falls off rapidly with increasing distance of cell phone from body. A person using cell phone from a distance- while doing text messages, accessing internet or using a 'hands free' will obviously have less exposure to radiation as compared to one holding the handset against his/her head. Every mobile manufacturing company is required to submit data about specific absorption rate (SAR), which is the amount of RF waves energy (must not exceed 1.6 watts per kg of bodyweight), to Federal Communication Commission. Therefore, the current standards suggest that cellular phones do not emit radiations, which are harmful to humans.

Are there any health hazards by cell phones?

There have been numerous studies conducted over last two decades to assess whether cellular phones pose a health risk. Tissue heating is principal mechanism by which RF-EMW can damage brain and other organs of body. RF waves used in cell phone are of such a low frequency that most of the energy is absorbed in skin and superficial tissue, causing negligible temperature rise in body organs. Here we are examining the potential long term risk from RF exposure in association with brain tumor and also short term risk for cognitive impairment, sleep disturbances, male infertility, cardiovascular defects, and other localized and generalized effects. However to date, as shown by WHO, there have been no adverse effects from RF-EMW exposure by cell phone. In contrast, research has clearly demonstrated an increased risk of road traffic accidents when drivers use cell phone- handheld or 'hands free'. In a study it is shown that mental fitness of a driver using cell phone is almost compared to a driver who is drunk. In several countries motorist are prohibited or strongly discouraged from using cell phones while driving.

Do Cellular Phones cause Brain Tumors?

Epidemiological researches evaluating potential long term risks by RF-EMW have mainly focused on an association between brain tumors and cell phone use. Hardell et al. (1999) conducted a case-control study, in which they compared 233 brain cancer patients diagnosed between 1994 and 1996 in the Stockholm and Uppsala regions of Sweden, and 466 controls. Muscat et al. (2000) held another case-control study and compared 469 brain cancer patients diagnosed between 1994 and 1998 in New York, Providence, and Boston, with 422 controls. The third and largest study comparing 782 brain cancer patients diagnosed in Phoenix, Boston, and Pittsburgh between 1994 and 1998 with 799 controls was conducted by Inskip PD et al. (2001). All these studies show almost similar results. There is no association between cell phone use and occurrence of brain tumor, and no dose response relationship

between cell phone use and brain tumor was noted. None of these studies showed a clear link between cell phone use and occurrence of brain tumors. Individual study shows that there is a non significant but fascinating increase in ipsilateral temporal lobe tumors (the site of highest RF exposure). Results of one study showed that there is association between cell phone use for more than 10 years and occurrence of ipsilateral brain tumors, especially acoustic neuroma and glioma. Researchers concluded that biases and errors limit the strength of conclusion and prevent causal relationship. Radio frequency energy released from cell phone is thought to be insufficient to make direct damage to DNA. Therefore, the probable mechanism is still unknown. As Many of the cancers are not detected until many years after the injury causing tumor and cell phones use is widely prevalent only from a decade or so, at present epidemiological studies can assess only those cancer that become evident within short period of times and it would be impossible to rule-out association between cell phone use and brain tumors. However, results from animal studies have consistently showed negative results indicating increase in cancer risk due to long term RF exposure. Looking to recent popularity of cell phone usage in younger people, and therefore a potentially longer lifetime exposure to it, WHO has promoted research on this group. Eventually, we will get more conclusive results about long term risk of cell phone usage.

Do Cell phones cause Male Infertility?

Infertility affects almost 15% of couples of reproductive age group and among those male factor plays almost in 50% cases. There are many causes for male infertility but as cell phone use becomes widely prevalent, it is once again in the limelight. Prior studies with limited study designs show possibility of male infertility by cell phone use. A study done by Agarwal et al. (2007) includes 361 male patients attending infertility clinic, shows that electromagnetic waves produced by cell phone affect sperm quality. All four parameters sperm counts, motility, viability and morphology are affected with wide variability and that affects male fertility. Although many studies show possible link between cell phone use and male infertility, mechanism for that is still not clear. There are many other studies which show variable effects of EM waves causing non significant changes in sperm features. Still further studies with careful designs are required to determine significant conclusive results which support the statement that cell phones are really detrimental to male fertility.

Effect of cell phones on sleep:

Another major concern is that excess usage of cell phone may affect sleep patterns.

Huber et al. (2000) did not report any significant change in sleep quality, sleep latency and rapid-eye-movement sleep latency in healthy volunteers exposed to 900 MHz for 30 mins. The only effect reported was an increase in EEG power density during the first 30 mins of non-rapid-eye-movement sleep, especially alpha waves and sleep spindles. It was concluded that effect of RF-EMW exposure is transitory and limited only to initial phase of sleep. Parentos et al. (2007) found no significant change in resting EEG on human volunteers exposed to RF waves.

Effect of cell phones on cognitive function:

Preece et al. (1999) studied the effect of RF-EMW on a wide range of tasks, including short and long term memory, simple and choice reaction time and sustained attention. Volunteers were exposed to continuous or pulsed GSM type of signals for 30 mins. A statistically significant shortening of reaction time during exposure to the continuous signal in the choice reaction time task was reported which was not accompanied by reduction in accuracy of responding. Simple reaction times were unaffected and there were no changes in word, number, or picture recall, or in spatial memory. However, no significant effect on cognitive function due to exposure to the pulsed GSM signal was reported. It was proposed that the increase in responsiveness is due to local thermal effect of RF waves on Angular gyrus of brain or due to mechanism related to heat shock proteins (HSP). It was also demonstrated that memory is not affected as hippocampus area (memory area) is deeply seated in brain. Later, Regel *et al.* (2007) concluded that RF-EMW exposure reduces reaction speed and increased accuracy in working-memory tasks. In conclusion, continuous exposure of cell phone may have a very small impact on human reaction time and working memory.

Local and general health effects by cell phones:

Sandstrom *et al.* (2001) conducted a questionnaire-based study involving some 17,000 respondents, showed that cell phone usage led to complaints such as warmth on and behind the ear (31%), fatigue (28%), headache (21.4%), decreased concentration (15%), dizziness (10%), memory loss (9%), and tingling and numbness (6.7%). These symptoms are in dose response relationship with calling time, it means more one talks on cell he/she is more likely to get these symptoms. It is proposed that these symptoms are due to either thermal effects or RF waves specific effects. However, in other provocation studies a causal relation between EMF exposure and symptoms has not been demonstrated, suggesting that psychological factors such as the conscious expectation of effect may play an important role in this condition.

Effect of cell phones on cardiovascular system:

Braune et al. (1998) conducted study on healthy volunteer and noticed that RF waves cause 5-10 mm Hg increase in blood pressure associated with decrease in heart rate. These changes show that auto regulatory blood pressure mechanism remains intact. There is also decrease in capillary perfusion indicating vasoconstriction. In a follow up study done by same group (Brune et al. 2002) to corroborate their previous findings, they noticed the same changes on cardiovascular system but analysis of variance showed that changes were independent of EMW exposure. Later in 2004, Tahvanainen *et al.* demonstrated cell phone exposure does not make significant change in arterial blood pressure and heart rate.

Conclusion:

Cell phones emit non-ionizing radiation and that is even in very low amount makes it really unlikely to cause significant health hazards. To date, results of epidemiological studies do not provide consistent evidence of a causal relationship between RF-EMW exposure and any adverse health effect. However, previously conducted studies have too many limitations to completely rule out an association. In October 1999, The Center for Devices and Radiological Health (CDRH) of the US Food and Drug Administration stated, "The available science does not allow us to conclude that mobile phones are absolutely safe, or that they are unsafe. However, the available scientific evidence does not demonstrate any adverse health effects associated with the use of mobile phones." Federal Communication Commission (FCC) stated that the excess levels of exposure reported by the media were "well within that safety margin, and, therefore, there is no indication of any immediate threat to human health from cell phones."

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CASE REPORTS

Case study of bilateral ovarian cyst

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The original name for the ovary was female testis,which dates from the time of herophilus(300 B.C.).The term ovary was introduced earlier in 17th century

A woman's reproductive system is the most complex part of the female anatomy.Variety of cysts and tumours develop in the ovary.William hunter in 1757 recommended the taping

and excision of ovarian cyst.

Ovary is devided into three parts according to histology

1.Surface epithelium

2.Germ cell

3.Stroma

Ovarian cyst can be fairly difficult to diagnose clinically because quite

Often there are no symptoms,but it is important to be aware of any changes that could be serious.In most cases a cyst does not harm and disappear by itself.Cysts are rarely turn malignant in women under 50 yrs. of age.

A case of bilateral ovarian cyst is described here based on radiological and histopathological findings.

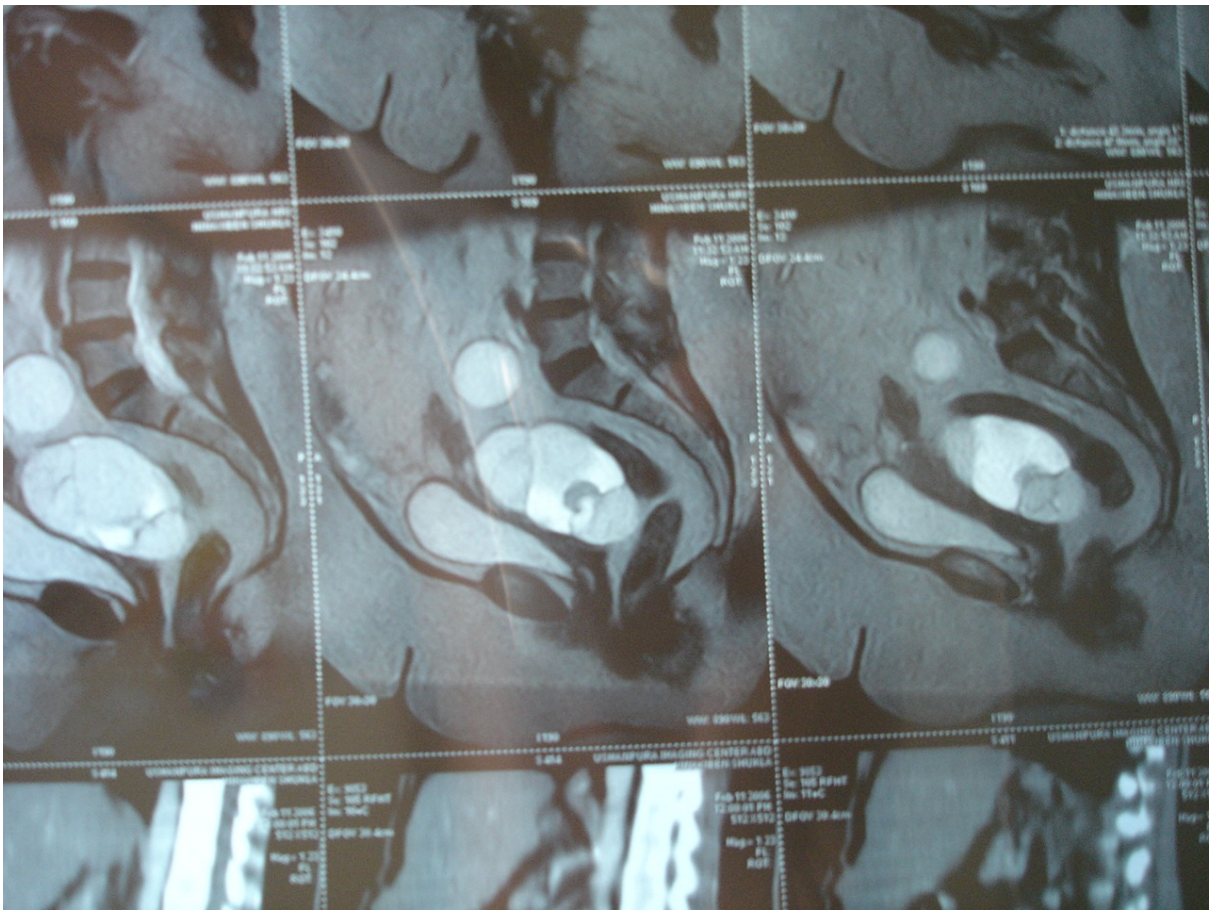
Key words:female testis,ovarian cyst,sacs,germ cell, symptoms,malignant.

Material and method:

A female patient aged 62 yrs.,weight 86.5kgs with history of hypertension,diabetes,obesity,complanting of heaviness in abdomen,constipation,cough & fever,urinary frequency was followed from the day of admission to the day of operation. the specimen was received by me in anatomy department for gross and histopathological study. .

Ultrasonography done:Incidental finding of mass in pelvis.

CT scan images:Showing mass in pelvis



CT scan :Large well encapsulated cystic mass with small solid component and internal septa in pelvis situated posterior to uterus with normal surrounding.Findings suggestive of ovarian mass lesion:cystadenomas

Operative history:Pateint was operated for abdominal hysterectomy with bilateral salpingo oophorectomy+omentectomy with mesenteric node biopsy.

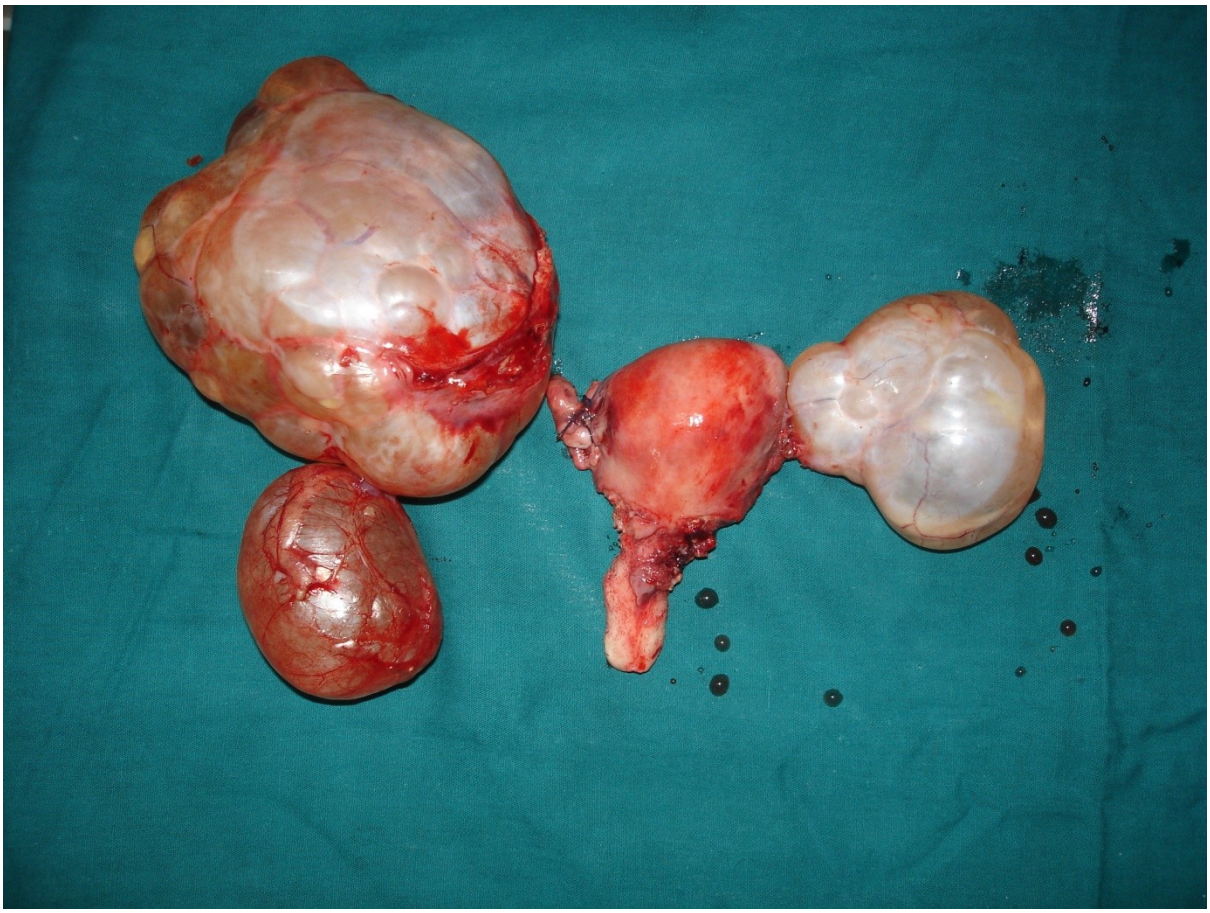
Gross examination:Hysterectomy specimen with bilateral ovarian cyst.Right ovarian cyst

Measures 11.5x8.0x7.0 cms in size.Left ovarian cyst measures 2x1.5x1.5 cms in size.

Outer surface grayish white and glistening.Both ovaries contain clear straw color fluid.

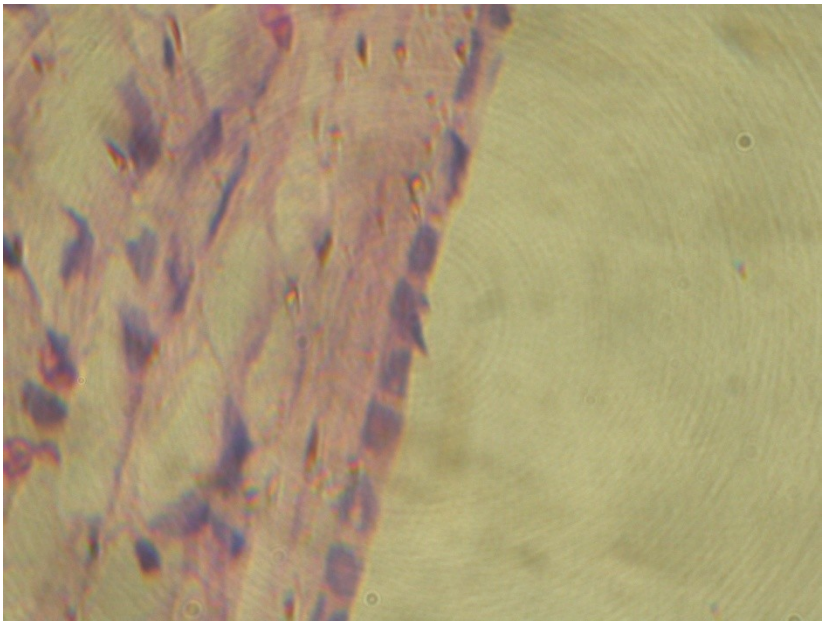
Microscopy:Both cysts are lined by flattened to cuboidal epithelium without any atypia.

Gross:



Courtesy: Dr.Darshana Thakker

Microscopy:



Cortesy:Dr.Dharmesh Shah

Discussion:the ovaries are paired pelvic organs,that live on either side of uterus.close to the lateral pelvic wall,behind the broad ligament and anterior to the rectum.

Tumours are the most common type of the lesion encounter in the ovary with exception of neoplasms,the ovaries appear remarkebly resistant to diseases.There are numerous types of ovarian tumours,both benign and malignant.about 80% are benign.Theire classification is difficult because of complex structure of ovary.The clinician,therapist and pathologist have suggested a variety of clinical classifications of ovarian tumours.Serous

cystadenomas are the commonest tumour among the cystomas of ovary and are common during reproductive life.

In this case study female pateint aged 52yrs. was incidently diagnosed with huge ovarian cyst.

Adult ovaries are ovoid,approximately 3 to 5 cms by 0.6 to 1.5 cms.Outer surface is smooth and pinkish in reproductive age,but becomes increasingly convoluted thereafter.

In this case study,right side ovary was measured about 11.5x8.0x7.0 cms.in size.Left ovarian cyst was 2x1.5x1.5cms.in size.Outer surface is grayish white and glistening and contain clear straw color fluid.

Summary:Never ignore alarming signals like constipation or frequency of micturition

looking at reproductive organ even after menopause,while treating elderly women

create and promote awareness about screening methods can save women's morbodity and mortality.

A health problem that may involve may involve ovarian cyst is polycystic ovarian syndrome(PCOS).

Complication of ovarian cyst can be torsion,rupture,carcinoma and adhesion.

75% of ovarian tumours are benign.Cystadenomas are surface epithelial tumours and In up to 20% of patients,benign cystadenomas are bilateral and occurring simultaneously in both ovaries.

According to cell atypia and invasiveness cystadenomas are classified as benign,borderline and malignant.

Serous cystadenomas are the commonest benign tumours amongst Indians.

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CASE REPORT

DECIDUOUS DENTITION

TREATED WITH PUPLOTOMY

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Abstract:

Early loss of decidous teeth can have an unfavorable effect upon the permanent dentition and the entire masticatory system. The majority of children today have little or no caries, and only in a small minority is the caries index high. In order to maximize the effectiveness of preventive measures, the dentist has a duty to determine the patient's caries risk and to introduce an effective individualized preventive program and early treatment.

Introduction :

The endodontic treatment of children and adolescents deserves special attention for many reasons. For one thing, the psyche of the child must be considered. For another, the deciduous teeth have anatomic charactristics, such as thin dentin mantles and large pulp chambers that are different from those of the permanent teeth. The most important indications for pulpotomy treatment of deciduous teeth are traumatic injury to the pulp of a vital tooth, carious pulp exposure.

Pulpotomy in the Deciduous Dentition :

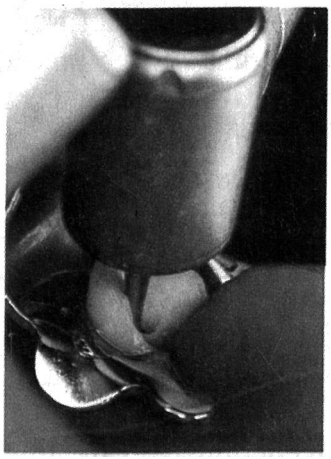
Puplpotomy means the complete amputation of the coronal pulp down to the orifice of the root canal. The special indication is an exposed pulp in a tooth that is vital. In deciduous teeth, pulpotomy is preferable to direct pulp cappint.

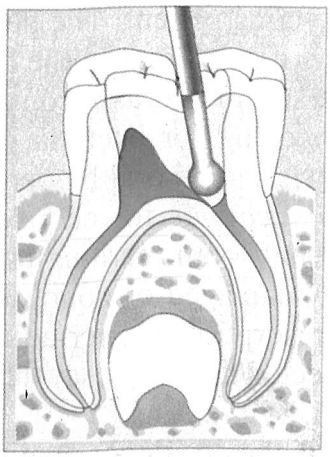
Matter :

A child 7 year old came with the traumatic injury in a maxilary deciduous canine with loss of a large part of the crown and pinpoint exposure of the pulp. The tooth is asymptomatic, gives a positive reponse to the sensitivity test, and is not tender to percussion.There is no fistual or palpable swelling. A pulpotomy performed under local anesthesia

Pulp Amputation :

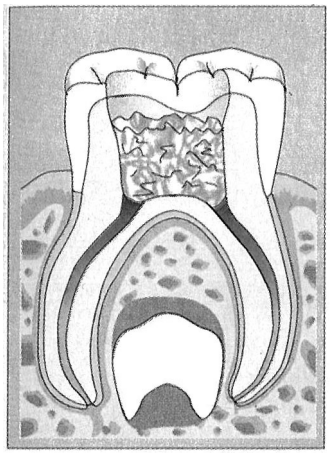
The coronal pulp tissue is removed with a diamond bur furniing at high speed, and the pulp chamber is cleaned of all tissue, remnants and irrigated with isotonic saline solution.





Hemostasis

A sterile cotton pellet is pressed against the remaining pulp tissue and changed several times until the bleeding has completely stopped. If hemostasis cannot be achieved, severely inflamed pulp tissue may be present. In this case a pulpotomy is no longer indicated.

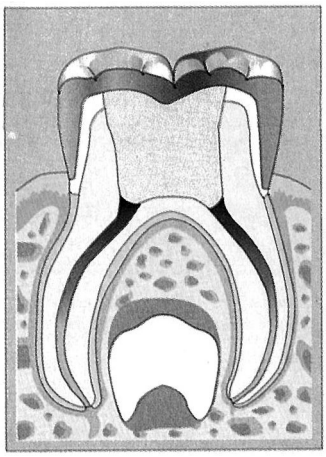


Formocresol :

A cotton pellet moistened with formocresol is applied against the exposed pulp tissue for 5 minutes.

Pulp Capping :

A pulp capping material (calcium hydroxide paste) is placed over the pulp and is sealed with restoration. It will form a bridge of hard tissue. Patient was under observation form 8 weeks and was asymtomatic. And permanent restoration was done.



Conclusion :

The main preference of pulpotomy treatment of deciduous teeth is to avoide invasion of decay in the pulp canal and further avoiding root canal treatment. Clinical studies indicate a success rate of nearly 100% of cases treated (Schroder 1978, Heilig 1984). Histologically, however, only 50% show a dentinal bridge and healing while the rest show inflammation and internal resorption (Doyle et al. 1962).

In spite of the 94-98%) clinical success rate of the chemicals throughout the system is an argument against their use in deciduous teeth (Araki et al. 1993).

Contraindications are a severely damaged or nonrestorable crown, resorption of more than half of the root length, pronounced resorption of interradicular or periapical bone and a high degree of tooth mobility, a severely neglected dentition, severe systemic disease, and insufficient cooperation by the child (Leisebach et al.)

The pulpotomy treatment concept is not indicated for all the patient. Placing a patient in the "high caries risk" category remains a differential diagnostic procedure specific to the patient and the conditions in which various individual findings must be combined (A xelsson 1989, Lutz et al. 1990).

Case Report

Right renal artery re-implantation and Supra-coeliac clamping in a supra-renal abdominal aortic aneurysm

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Keywords : Right Renal Artery, Coeliac axis, abdominal aortic aneurysm

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Abstract

Aim: We report the repair of a supra-renal abdominal aortic aneurysm involving celiac axis with right renal artery re-implantation.

Materials and Methods: A 35 year old woman presented with a supra-renal abdominal aortic aneurysm with maximum diameter of 6.7cm. The right renal artery originated from the aneurysm. The left kidney was smaller in size and left renal artery originated from the aneurysm. The aneurysm was repaired with a 18mm dacron tube graft. A patch containing the celiac axis was and re-anastomosed to the Dacron tube. The right renal artery was re-implanted into the tube graft separately. The total clamp time taken for all the anastomosis was 45 minutes including the total time of 35minutes for renal and mesenteric ischemia.

Results: Patient had post-operative acidosis, hypothermia and transient rise in renal parameters and could be extubated on second post-operative day i.e. 48 hours after surgery. Post-operative renal Doppler showed good flow across right renal artery and left renal artery, without renal infarct. Patient was discharged with normal renal parametres on tenth post-operative day.

patency.**Conclusion:** We conclude that renal artery re-implantation on supra-coeliac clamping of aorta is feasible during supra-renal abdominal aortic artery aneurysm repair with minimum morbidity and excellent

Introduction:

Supra-renal and juxta-renal abdominal aortic aneurysms account for 15% of all the abdominal aortic aneurysms. Supra-coeliac clamping in these cases is complicated by renal, hepatic and intestinal ischemia[8]. Most common cause of morbidity in these cases is deterioration in renal function. Renal insufficiency and pulmonary complications are more with renal artery revascularisation[2] which can be as high as 33.3% as compared to 19.8% in those without renal artery revascularisation. Incidence of transient renal insufficiency ranges from 18 to 22% while the incidence of new onset of renal insufficiency requiring dialysis ranges from 2.9% to 3.9 [4,6,7,8]. Mortality rate varies from 0.8% to 7.5% which is higher than the infra-renal aortic aneurysms [4,5,6,8].

Surgical as well as endovascular methods are available for the repair of abdominal aortic aneurysms. Fenestrated endovascular methods are now available for supra-renal and juxta-renal abdominal aortic aneurysms but these being very expensive as compared to traditional surgical methods. In our country, it becomes necessary to view objectively if good results can be achieved with less costly surgical methods which can be made available for everyone and not merely for a few reachable patients. Multiple reconstruction methods have been devised for the renal artery revascularisation including fish mouth anastomosis, renal artery re-implantation and aorto-renal interposition grafts. Various methods have also been used to preserve the renal function which include topical renal hypothermia, infusion of cold heparinised ringer lactate solution during warm renal ischemia but with unequivocal results.

Materials and Methods:

A 35 year old woman was admitted with complaints of pain in abdomen for last two years radiating to left side of abdomen. She was investigated elsewhere for this and was found to be hypertensive and was on antihypertensive for last one year. Her BP was 180/100mmHg. She was put on betaloc 25mg twice daily. She was on medical management for last one year. She was also found to have pulsatile mass in abdomen diagnosed clinically to be abdominal aortic aneurysm but patient could not pursue treatment and investigations for it because of financial constraints. Patient didnot give any history of trauma, fever or gastric symptoms like vomiting etc. On clinical examination a non-tender, firm, pulsating mass of approx. 6cmx8cm size could be palpated in epichondrium. She was further investigated for the mass in form of colour doppler, CTangiography. Haematological investigations were done and found to be non contributory to the diagnosis. VDRL test was negative. Hemoglobin was 9.5gm/dl. Renal parameters were within normal limits, s.creat. was 1.0.

CT angiography showed a dissecting abdominal aortic aneurysm which was contained and surrounded by a calcified tissue. The size of the aneurysm was

6.7cm x 6.8cm and celiac axis originated from it. The left renal artery also originated from the aneurysm and the right renal artery also originated from the aneurysm at a lower level than the left.

Patient was taken for surgery planning for an abdominal approach and extending to thorax if required. A nasogastric tube was inserted. On table after dissecting the aorta and aneurysm it was found that clamping of the aorta above the aneurysm would require exposure of aorta at a higher level. Hence the abdominal incision was extended to thorax through 7th intercostal space. The aorta was looped just at its exit from diaphragm. Renal protection was done with topical ice bags. After clamping the aorta, the aneurysm was opened away from the major vessels arising from it and descending abdominal aorta was transected 2cm above the aneurysm. The patch containing the celiac axis and left renal artery was excised as a single patch. The right renal artery was arising much behind and below this patch, could not be included in the common patch containing the celiac axis, hence was dissected separately and planned for a separate re-anastomosis. An 18mm Dacron tube graft was used for reconstructing the aorta. The upper end of the aorta was anastomosed to the Dacron tube graft using continuous 4-0 prolene suture. A whole was made in the Dacron tube graft matching the size of the patch containing the celiac axis and left renal artery. The patch containing the celiac axis and left renal artery was then anastomosed to this whole in the Dacron tube graft with continuous 5-0 prolene suture. A clamp was placed at the lower end of the Dacron graft and the aortic clamp released thus allowing for perfusion of the major vessels. The lower end of the Dacron tube graft was then anastomosed to lower end of the transected descending aorta. A side-biting clamp was then applied on the Dacron tube graft and right renal artery was re-anastomosed to the Dacron tube graft using continuous 6-0 prolene suture. Clamp was released and hemostasis achieved. The thorax was closed over an underwater chest drain and the abdomen was also closed over a continuous drain. total clamp time taken for all the anastomosis was 45 minutes including the total time of 35minutes for renal and mesenteric ischemia. During the surgery patient's blood pressure rose to 180mmHg systolic which was treated with sublingual depin and betaloc through NG tube. A total five units of whole blood was required during and after the surgery and two units of FFP were transfused post-operatively.

Results:

Patient was shifted to ICU with stable hemodynamics. She was put on betaloc twice daily for persistent hypertension. She was also put on NTG and dopamine in renal dose. On shifting to ICU she was cold, her peripheral temperature was 28°C and her blood gas analysis showed an acidosis of -10 which was corrected with sodabicarbonate, blood transfusion and fluids. Her haemoglobin was 9.5gm/dl.

Urine output remained adequate through out the surgery and after shifting to the ICU. Post-operative creatinine rose to 1.5 transiently which returned to normal within 3days. she regained consciousness after four hours of shifting to ICU. She could be extubated on 2nd post-operative day and was comfortable after extubation. Chest drain and abdominal drains were removed after 3days. Post-operative Doppler was done which showed normal flow in right renal artery and diminished flow in left renal artery after its origin with smaller left kidney which was documented before surgery. She was discharged on 10th post-operative day.

Conclusion:

Repair of supra-renal abdominal aortic aneurysm involving celiac axis is possible with supra-coeliac clamping of aorta with minimum morbidity and minimum damage to major visceral arteries and renal and hepatic functions.

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EUMYCETOMA IN GROIN AND PERINEUM DUE TO *MADURELLA MYCETOMATIS*

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Abstract

A case of eumycetoma of groin and perineum region in a 35 yrs old male was reported to Dermatology department of our institute. Patient presented with nodules

and multiple discharging sinuses in the groin and perineum region, some of which containing black granules. Granules were collected and processed for bacteriological, mycological and histopathological examination. Clinically diagnosed mycetoma case was microbiologically confirmed as eumycetoma. The case is being reported for its unusual clinical presentation and common etiological agent, *Madurella mycetomatis*.

Keywords: Black grain, eumycetoma, *Madurella mycetomatis*.

Introduction

Mycetoma is a localized, chronic fungal infection of skin and subcutaneous tissues. It is characterized by tumefaction, abscess formation, draining sinuses, and sclerotia (grains) within the abscesses and fistulae. Mycetoma can be associated with filamentous bacteria (actinomycetoma) or with true fungi (eumycetoma). Worldwide, 60 percent of mycetomas are bacterial and 40 percent are fungal. The causative organisms are found as saprobes in the soil and plants of tropical and subtropical regions. [1]

Mycetoma is endemic around the Tropic of cancer, including India, Pakistan, Sudan, Senegal, Somalia and Mexico. In India, its high prevalence is seen in Rajasthan, Tamil Nadu and Andhra Pradesh. Actinomycotic mycetoma is prevalent in south India, southeast Rajasthan and Chandigarh; while eumycetoma, which constitutes one-third of total cases, is mainly reported from north India and central

Rajasthan. It is important to distinguish between eumycetoma and actinomycetoma for treatment and prognosis of the disease. [2]

The foot is the most common site of infection and 70% of all mycetomas affect the foot. Other reported sites of involvement include the upper extremities, trunk, buttocks, eyelids, lacrimal glands, paranasal sinuses, mandible, scalp, neck, perineum, and testes. The disease is initially limited to the skin & subcutaneous tissue but may eventually spread through the fascial planes to contiguous structures such as muscle, bone, blood and lymphatic vessels and nerves. Rarely the disease may spread to the regional lymph nodes or viscera.
The common etiological agents of eumycetoma reported from different centers are *Madurella mycetomatis* , *M. grisea* , *Acremonium* spp, *Aspergillus* spp, *Fusaruim* spp.[2] We report here a case of black grain eumycetoma in a farmer of Rajasthan. [3]

Case report

A 35 yrs old male farmer, resident of Pali, Rajasthan, who presented with multiple nodules and sinuses (Fig 1), some of them discharge purulent containing black granules, in groin and perineum, to the dermatology out patient department of our hospital in October 2009.

His problem started 10 years back as a small painless nodular lesion in groin, which gradually increased in size and number. Some of the nodules broke down forming opening discharging black colored granules.

Physical examination of the patient revealed non tender, multiple nodular lesions of various sizes, some having intact sinus tract discharging purulent discharge containing black granules in groin & perineum; regional lymph nodes did not show any significant enlargement & systemic examination was unremarkable. All routine investigations, including radiographs and hematological & biochemical tests were within normal limits.

The patient was a horse rider in his teenage. A few black irregular granules of variable size measuring 0.5-2.0 mm were collected from the discharging sinus tract by pressing it from base, in sterile petri dish after thorough cleaning of the lesion. Such granules were also present on the gauze of the dressing. These were crushed, separated & subjected to microscopy & culture for mycological & bacteriological identification. Gram stain, 20% potassium hydroxide (KOH) mount, modified Ziehl-Neelsen stain (1%H_2SO_4) and periodic acid -Schiff (PAS) staining were done. The granules were rinsed in sterile saline & were inoculated onto two sets of sabouraud's dextrose agar with chloramphenicol (SDA-C) and were incubated at 30^0C & 37^0C. These were also inoculated onto blood agar pate & CDC blood agar plate & incubated at 37^0C for 14 days under aerobic & anaerobic condition respectively.

The microscopic examination of 20% KOH mount of crushed granules revealed septate, branched hyphae approximately 2-4 µm width, interwoven with each other (Fig 2), embedded in cement substance. Gram stain showed gram variable septate hyphae.

Colonies developed within a week with brown diffusible pigment in the medium. Later on whole SDA-C became brown with reverse of the medium dark brown. Microscopically, lacto phenol cotton blue teased mount of the colony showed branched, septate hyphae with intercalary & terminal chlamydospores (Fig 3). Isolate has assimilated glucose, lactose, maltose & galactose but not sucrose and utilized urea suggestive of *Madurella mycetomatis*.

Tissue biopsy was sent to the histopathology department of our hospital. Microscopically haematoxylin-eosin stained section showed large brown-black grain, which were cracked at places, containing radial, septate, branched hyphae (Fig 4). PAS stain of tissue section shows PAS-positive fungus.

Antifungal treatment with tablet Itraconazole (200 mg x bid) and Dapsone (100 mg x HS) was initiated on the basis of microscopic findings. Patient was also reffered to surgical unit for further workup, where conservative treatment was advised due to its unusual site of presentation. In the follow up of the patient, after two months the lesion was regressed.

Discussion

Although eumycetoma was first reported from India in the middle of the 19th century, reliable epidemiological information remains scarce. The disease characterized by a prolonged incubation period, slow and unremarkable clinical course & multiple causal agents. It goes undiagnosed perhaps due to lack of diagnostic facilities in mycology.[2] In Northern India including Rajasthan, eumycetoma is more prevalent with commonest agent being *Madurella mycetomatis*. [4]

Sing has postulated that mycetoma of perineum is probably due to working of farmers in squatting position & wearing inadequate cloth around the groin thereby subjected to injuries by thorns & splinters. [5]

Diagnosis of mycetoma is made by examination of grains either directly or histologically. Different grain colors are associated with various infectious organisms. Dark grains, as seen in our patient, are associated with fungal agents, such as the *Madurella mycetomatis* that was eventually identified in our patient's mycetoma. In our patient, direct microscopy of granule revealed fungal elements. On this basis, diagnosis of eumycotic mycetoma was made and antifungal therapy was started within a week. Isolation of fungus in culture took 28 days. [1,2]

Culture of the infectious organisms is often useful in directing therapy. Actinomycetomas tend to respond better than eumycetomas to medical management. Actinomycetomas usually resolve with oral antibiotic therapy while eumycetomas are frequently refractory to antifungal drugs and have high relapse rates. Surgical debridement of eumycetoma in conjunction with long term antifungal therapy is often necessary. [1]

Currently, ketoconazole is the drug of choice. The drug is cost-effective but has hepatic and endocrinal side effect. In present study,[2] the patient was treated with Itraconazole and Dapsone.

In conclusion, a greater awareness of the disease on the part of the clinician is warranted to suspect and investigate for mycotic etiology, especially in the absence of response to antibacterial therapy.

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Gross Examination:

Microscopic examination: