Finally, the scorching sun is slowly waning! A few well timed breaks as the heavens opened up did bring many a smile on the faces of those that had got toasted for weeks. A welcome relief from the sweltering heat, although certainly one to be savoured, also serves as an harbinger for an important thought that needs to enter the minds atleast now, if not present already. The rains, although a much revered and enjoyed companion, bring along some unwelcome guests to our homes and hence it falls upon our shoulders to ensure we don't facilitate their easy arrival. Well yeah, you guessed it right. I am referring to the vectors of the ubiquitous diseases of our regions indeed. The few spells of rain will surely be followed by a many more, thankfully so. Hopefully not too much, like the last time. But certainly the rains are gonna be increasing and at the least a parallel rise is warranted in our conscious acts to prevent facilitating the arrival of the pall bearers for undisturbed sleep. The Mosquitoes.

'If I cannot do great things I shall not worry, for I shall do the things I can in a great way’ is said to be the motto of the street wise. And the need of the hour is more of such Street wise individuals to prevent another successful season of home invasion by these little insects that themselves establish the fact that size doesn’t matter to have an impact. Small acts like ensuring proper garbage disposal, preventing water stagnation in your own homes and nearer localities can like the drops of water help form a puddle even if not the proverbial ocean itself. Because it’s the baby steps that are necessary before you win that Olympic Sprint Gold. In a moment where we are gearing towards ‘Swach Bharath’ ask yourself, ‘Am I adding my drop?’ Do your bit to ensure we have less of the unwelcome guests this monsoon and enjoy it a bit better, hale and healthy!

Dr. P. Seenivasan,
Chief Editor SMJ,
HOD Dept of Community Medicine,
Stanley Medical College
The Objective is to find 5 Sets of 5 Interconnected words in this grid.

<table>
<thead>
<tr>
<th>aortic regurgitation</th>
<th>pulsus parvus et tardus</th>
<th>ejection systolic murmur</th>
<th>tapping apex beat</th>
<th>pansystolic murmur</th>
</tr>
</thead>
<tbody>
<tr>
<td>mitral stenosis</td>
<td>Plunging ranula</td>
<td>mitral regurgitation</td>
<td>Cullen’s sign</td>
<td>early diastolic murmur</td>
</tr>
<tr>
<td>Bilocular hydrocoele</td>
<td>heaving apex beat</td>
<td>Austin Flint murmur</td>
<td>mid diastolic murmur</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Waterhammer pulse</td>
<td>mitral valve prolapse</td>
<td>Hill’s sign</td>
<td>giant left atrium</td>
<td>Chronic duodenal ileus</td>
</tr>
<tr>
<td>loud S1</td>
<td>opening snap</td>
<td>soft S1</td>
<td>diamond shaped murmur</td>
<td>aortic ste- nosis</td>
</tr>
</tbody>
</table>
## Contents

### Original Article

<table>
<thead>
<tr>
<th>SOCIAL AND PREVENTIVE MEDICINE</th>
</tr>
</thead>
</table>
| **01. STUDY ON KNOWLEDGE REGARDING IRON DEFICIENCY ANEMIA & IRON FOLIC ACID ACID COMPLIANCE IN PREGNANT WOMEN OF RURAL AREAS OF ANDHRA PRADESH**  
Usha Rani Chadalawada, Sandhya Rani |
| **02. A CROSS SECTONAL STUDY ON THE HEALTH HYGIENE STATUS OF SCHOOL CHILDREN IN NORTH CHENNAI**  

<table>
<thead>
<tr>
<th>ANATOMY</th>
</tr>
</thead>
</table>
| **03. A STUDY TO OBSERVE THE VARIATIONS IN THE POSITION OF THE RECURRENT LARYNGEAL NERVE IN RELATION TO THE TRACHEO- OESOPHAGEAL GROOVE**  
J. Thilagavathi, V. Anandhi, Sudha Seshayan |

<table>
<thead>
<tr>
<th>INTERNAL MEDICINE</th>
</tr>
</thead>
</table>
| **04. PREVALENCE OF SPONTANEOUS BACTERIAL PERITONITIS IN DECOMPENSEATED LIVER DISEASE**  
R. Jayanthi, P. Vasanthi, Karthigeyan P N, Mohamed khalifa, Namitha Narayanan, Monika, Dilip kumar, Adrian keith moronh |

<table>
<thead>
<tr>
<th>GENERAL SURGERY</th>
</tr>
</thead>
</table>
| **05. COMPARISON OF MESH AND NON-MESH METHODS OF INGUINAL HERNIA REPAIR IN A TERTIARY CARE SETUP – A TRIPLE BLIND RCT STUDY OVER 2 YEARS PERIOD**  
P. Sumathi, G. Raj Ashok |
# Case Reports

## GENERAL SURGERY

**06. BASAL CELL CARCINOMA- AN UNUSUAL PRESENTATION**  
Sumathi, Ganesh Kumar, Towfical  
Page 29

**07. POLYTHELIA - SIX NIPPLES IN A MIDDLE AGED WOMAN**  
Varun Arunagiri, Kothai Anbalagan  
Page 31

## PAEDIATRICS

**08. SCHIZENCEPHALY WITH HEMIPARESIS IN A CHILD - A CASE REPORT**  
S.Velusamy, S.Sindhu Bharathi, B.Krishnakumar  
Page 33

**09. BARDET–BEIDL SYNDROME WITH RICKETS**  
Page 35

## INTERNAL MEDICINE

**10. AN UNUSUAL PRESENTATION OF HYPERPARATHYROIDISM**  
Mahima Alicia, Prakash  
Page 39
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Why do we do basic research? To learn about ourselves.

Research is to see what everybody else has seen, and to think what nobody else has thought.
INTRODUCTION:

Anemia is a global public health problem affecting nearly 2 billion people in both developing and developed countries with major consequences for human health as well as social and economic development [1]. It occurs at all stages of life cycle, but is more prevalent in pregnant woman and young and children [1]. Iron deficiency anemia (IDA) was considered to be among the most important contributing factors to the global burden of the disease [15]. Anemia is a condition in which the oxygen carrying capacity of the red blood cells is insufficient to meet the body physiological needs. It can cause various health complications in every age group including pregnant women, wherein it can lead to adverse maternal and foetal outcomes[2]. It is estimated that as many as 20% of maternal deaths are directly caused by anemia through its complications and it is an as-

Abstract

Context: WHO estimates that over 1/3rd of world’s population suffer from anemia? India constitutes to be one of the countries with the highest prevalence of anemia. National Family Survey 3 estimates the prevalence of anemia to be 70% in pregnant women. In India, one in five i.e. 20% of all maternal mortality rates are attributed to anemia during pregnancy and in another 40% anemia is a contributory factor. Hence we proposed to take the study on “Iron Deficiency Anemia” in pregnant women in Kurnool district

Aims: To assess the awareness levels of iron deficiency anemia among pregnant women. To create awareness regarding IFA supplementation and to overcome the prevailing misconceptions associated with IFA intake.

Settings and Design: Community based Intervention al study. 100 percent sample rendered service of ensuring IFA compliance in pregnant women

Methods and Material: A Cross-sectional interventional study was conducted on a total of 120 pregnant women belonging to 5 randomly selected rural areas of Kurnool district.

Statistical analysis used: Done using SPSS version 18.The results were expressed as proportions. To compare the differences across the groups, chi square test was used and p value <0.05 was considered statistically significant

Results: Among our study population 36.44% are primies, 43.22% are 2nd gravida, 17.7% are 3rd gravida, 2.54% are 4th gravida 86.6% are aware of IFA prophylaxis, 85% take IFA and 94.1% have their family support for IFA increased intake of food during pregnancy is noticed in 63.3%.Before intervention 53.3% were mildly anemic, 39.16% were moderately anemic, 7.5% were severely anemic. After intervention, 75.8% were mildly anemic, 20.83% were moderately anemic, 3.3% were severely Anemic.

Conclusions: The study showed that IFA supplementation raised the hemoglobin levels of the pregnant women. Knowledge regarding anemia and its consequences and importance of iron supplementation can be improved through health education. Grass root level workers like ASHA’s and Anganwadi workers can play an active role in this regard

Key-words: IFA, Antenatal Women, Intervention, Hemoglobin Estimation, Compliance.
associated cause in as many as 50% of maternal deaths worldwide\[2\]\[3\]. The World Health Organization (WHO) defines anemia as blood hemoglobin concentration less than 11gm/dl or hematocrit less than 37% in pregnant women [2]. Iron deficiency is thought to be the most common cause of anemia globally, accounting for more than half of anemia cases in pregnancy [2]. Iron, is an essential nutrient, which is required for hemoglobin synthesis, other than the normal wellbeing, whose demand increases highly during pregnancy and many times does not get supplied through the regular diet. This can be worsened by the loss of appetite during pregnancy [4]. Therefore the most suitable mass intervention for iron supplementation is administering Iron along with Folic acid in the form of tablets to pregnant women aimed at increasing the hemoglobin concentration, so that the level of anemia at term could be reduced to the best possible extent [5]\[6]\[7]\.

The overall prevalence of anemia among pregnant women in India is estimated to be about 54.6% in urban areas, and 59% in rural areas. There is evidence to suggest that up to 90% of maternal anemia may be contributable to inadequate consumption of dietary iron. Furthermore, increased blood loss due to hookworm or schistosomiasis; bleeding hemorrhoids, vitamin deficiencies, HIV and genetic disorders such as sickle cell anemia and thalassemia add to prevalence of anemia in pregnant women [13]. In developing countries like India, there are various causes that contribute to decreased adherence to iron supplementation including, misunderstanding of instructions, side effects, cultural beliefs, and inconvenient dosing regimens. In addition one may cite access to motivated and trained health professionals [4].

Very few researches are done in India regarding knowledge and practice of anemia in pregnant women. Hence the present study is conducted to assess the awareness regarding iron deficiency anemia and to educate them.

**SUBJECTS AND METHODS:**

**Type of study:**
Cross Sectional Interventional Study

**Study population:**
120 anaemic antenatal women as confirmed by estimation of Hb(Hemoglobin) levels.

**Study area:**
5 rural areas of Kurnool District (Parla, Peddapadu, Munagalapadu, Mamidalapadu, Masamaseed).

**Study Duration:**
Nov 17, 08 - Jan 24, 09

**Study Instrument:**
1. Pretested Semi-structured Questionnaire,
2. SAHLI’s Haemoglobinometer,
3. Iron & folic acid tablets.

**Sample size:**
The study was conducted in above stated 5 rural areas comprising a population of about 15,383. A sample size of 120 was obtained after excluding those pregnant women below 4 months & above 8 months of gestation. Their Knowledge, Attitude and Practice (KAP) about health & nutritional status with pretested semi-structured questionnaire was assessed.

Pregnant women were randomly categorized into:
A – IFA on their own compliance
B – Supervised IFA supplementation (ASHA workers)

Pre-interventional Hemoglobin status measured with SAHLI’s Haemoglobinometer, from each of the recruited woman, 5ml of venous blood was collected from the antecubital vein using plastic disposable syringes into sample bottles containing EDTA. After collecting the labeled samples from the woman, hemoglobin was measured. Same procedure was repeated to measure post interventional hemoglobin values also. Hemoglobin levels are classified based on WHO recommendations [2]. Women with hemoglobin values less than 11gm% are considered anemic. Those women with Hb values between 9-109gm/dl are categorized into mildly anemic group. Those with 7-8.9 gm/dl are categorized into moderately anemic group and those with Hb values in the range of 4-6.9gm/dl are categorized into severely anemic group.

**Inclusion criteria:**
1. Only pregnant women who were anemic (Hb level <11gm% according to WHO classification) as tested with Sahli's haemoglobinometer were included in the study
2. Women who have given their consent
3. Pregnant women with 4-8 months of gestational age.

**Exclusion criteria:**
1. Women who have not given their consent
2. Women who were not anaemic
3. Women below 4months and above 8months of gestation

**Data analysis:** Done using SPSS version 18. The results
were expressed as proportions. To compare the differences across the groups, chi square test was used and p value <0.05 was considered statistically significant.

**RESULTS:**

Table-1 shows the socio-demographic profile of the study participants. In this study the mean age of the respondents was found to be 26±7 years. Majority of the women were

<table>
<thead>
<tr>
<th>Sociodemographic variable</th>
<th>Number</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>54</td>
<td>45.0</td>
</tr>
<tr>
<td>25-31</td>
<td>52</td>
<td>43.33</td>
</tr>
<tr>
<td>32-38</td>
<td>14</td>
<td>11.66</td>
</tr>
</tbody>
</table>

**Gravida wise distribution of pregnant women**

<table>
<thead>
<tr>
<th>Gravida wise distribution</th>
<th>Number</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. primi</td>
<td>43</td>
<td>36.44</td>
</tr>
<tr>
<td>b. 2ndgravida</td>
<td>52</td>
<td>43.20</td>
</tr>
<tr>
<td>c. 3rdgravida</td>
<td>21</td>
<td>17.70</td>
</tr>
<tr>
<td>d. 4thgravida</td>
<td>4</td>
<td>2.54</td>
</tr>
</tbody>
</table>

**Religion**

<table>
<thead>
<tr>
<th>Religion</th>
<th>Number</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hindu</td>
<td>68</td>
<td>56.66</td>
</tr>
<tr>
<td>Muslim</td>
<td>34</td>
<td>28.33</td>
</tr>
<tr>
<td>Christian</td>
<td>18</td>
<td>15.0</td>
</tr>
</tbody>
</table>

**Education**

<table>
<thead>
<tr>
<th>Education</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. illiterate</td>
<td>19</td>
<td>15.83</td>
</tr>
<tr>
<td>b. literate</td>
<td>101</td>
<td>84.1</td>
</tr>
</tbody>
</table>

**Occupation**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. home maker</td>
<td>78</td>
<td>65.0</td>
</tr>
<tr>
<td>b. working woman</td>
<td>42</td>
<td>35.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socioeconomic status</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower class</td>
<td>36</td>
<td>30.0</td>
</tr>
<tr>
<td>Lower middle class</td>
<td>57</td>
<td>47.5</td>
</tr>
<tr>
<td>middle class</td>
<td>21</td>
<td>17.5</td>
</tr>
<tr>
<td>upper middle class</td>
<td>6</td>
<td>5.0</td>
</tr>
<tr>
<td>Upper class</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

TABLE 2- Knowledge regarding various aspects of anemia (n=120)
Hindus and studied up to primary school. Most of them were housewives with pregnancy order being 2nd gravida. Very few were workers doing works like housemaid, stitching, work associated with handloom, Embroidery. Majority of them belong to lower middle class, according to “BG Prasad classification.”

Table 2- depicts the knowledge regarding various aspects of anemia among pregnant women. The above table shows that the study participants overall knowledge was medium. Knowledge regarding spacing between pregnancies and its significance, knowledge of ill effects of anemia in pregnant women on the child was found to be very low. Less than 50% were aware of the problems of the less hemoglobin levels in the body which will affect the baby, which is a matter of concern.

Pregnant women were randomly categorized into two groups, each group consisting of 60 pregnant women. Group A included 60 pregnant women who received IFA under supervision of ASHA workers and group B included 60 pregnant women who consumed IFA on their own. This

<table>
<thead>
<tr>
<th>Dietary modifications during pregnancy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased intake</td>
<td>75</td>
</tr>
<tr>
<td>Remained same</td>
<td>45</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Awareness on spacing</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>33</td>
</tr>
<tr>
<td>Absent</td>
<td>87</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Awareness of ill effects of anemia on child</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. present</td>
<td>6</td>
</tr>
<tr>
<td>b. absent</td>
<td>94</td>
</tr>
</tbody>
</table>

TABLE 3: Prevalence of the study participations categorized under different grades of anemia, who consumed IFA under supervision (n=60)

<table>
<thead>
<tr>
<th>Categorization into different grades of anemia based on Hb values (gm %)</th>
<th>Pre interventional values (before giving IFA supplementation)</th>
<th>Post interventional values (after IFA supplementation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Mild anemia</td>
<td>53.30%</td>
<td>75.80%</td>
</tr>
<tr>
<td>b. moderate anemia</td>
<td>39.16%</td>
<td>20.83%</td>
</tr>
<tr>
<td>c. severe anemia</td>
<td>7.50%</td>
<td>3.30%</td>
</tr>
</tbody>
</table>

TABLE 4: Showing percentage of pregnant women with anemia status during pre and post interventional stages of compliance with Iron and Folic acid tablets(n=60)

<table>
<thead>
<tr>
<th>Pregnant women with their anemia status (Hb%)</th>
<th>% of women (pre -intervention)</th>
<th>% of women (post intervention)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Mild anemia</td>
<td>35.0</td>
<td>43.33</td>
</tr>
<tr>
<td>b. moderate anemia</td>
<td>53.3</td>
<td>51.66</td>
</tr>
<tr>
<td>c. severe anemia</td>
<td>11.66</td>
<td>5.0</td>
</tr>
</tbody>
</table>
was done to compare the groups and find out whether there is any significant association of compliance factor with hemoglobin levels. Compliance is defined as dose taking in relation to what was prescribed [8].

Table 3-ASHA worker provided the pregnant women IFA supplied by government free of cost to the on daily basis for 100 days by house to house visit. Pregnant woman shows that the hemoglobin levels got improvised after supplementation of IFA tablets regularly for hundred days .Each tablet contains 100mg of elemental iron and 0.5mg of folic acid, making the study participants motivated to adhere to compliance .Hb levels measured using sahlis haemoglobinometer during post intervention showed the betterment in hemoglobin levels and the pregnant women shifted from severe towards mild anemia.

Table-4 shows that in the present study, of those pregnant women who consumed the iron and folic acid tablets on their own without supervision, the hemoglobin levels have raised slightly and have not showed any significant increase in the Hb levels. These women have post interventional hemoglobin values less than that of women who consumed IFA under supervision, even though no significant association was found between the two factors viz., Hb values under self- compliance and that of under supervision. The reasons for this difference need to be studied further.

DISCUSSION:

The chi-square values of demographic variables such as age, gravida, type of family, education, occupation, monthly family income and knowledge of antenatal women regarding anemia during pregnancy were not significant at 0.05 level of significance. Thus it was concluded that there was no association between socio-demographic variables and knowledge of antenatal women regarding anemia, this finding is similar to a study done by baby et al[11]. In our study the knowledge regarding ill effects of anemia on the baby was found to be poor (5.83%). In a study conducted at Unrwaclinics in Gaza strip showed that highest proportion of women(>90%) were aware that diet rich in iron is necessary for pregnant women and a high percentage of them aware that anemia is caused due to malnutrition with inadequate iron[14].

In a study done by jiji et al; a significant association between the occupation of pregnant women and level of knowledge was found at p<0.05[12].Most of the women in this study had anemia of mild to moderate severity with only few being severely anemic. This finding is similar to the findings from a study done by Olujimi et al [10].

In our study no significant association was found between the education and knowledge regarding iron deficiency anemia. Even pregnant women with higher education have misconception regarding iron pills intake and were not much aware of iron deficiency anemia.

In our study no significant association was found between education levels and compliance. This is contrary to a study done by Duttaaj et al, where the higher compliance level was seen in women who are educated and have better knowledge of exact dose of iron pills [9].

A qualitative study on women’s perceptions of iron deficiency and anemia prevention and control in eight developing countries describes the major reasons for women not continuing iron tablets consumption are poor access to supplies (i.e., low utilization of antenatal care services or inadequate supplies at facilities), the form of the tablet (i.e., unappealing taste, smell, or color), side effects (e.g., gastrointestinal problems), fear (e.g., high birth weight, difficult delivery, harm to the fetus), recovery (i.e., discontinuation of supplements as a result of improvement in symptoms) and behavior (i.e., forgetting or not wanting to take the tablets). In the nation-wide surveys of Latin American countries, it is observed that women are reluctant to accept iron tablets from sources outside the government health system, fearing poor quality control and lack of medical supervision. In South India, where the private sector is well developed at the community level, the opposite is true. Potential consumers of supplements are suspicious of the quality of government-sold pharmaceuticals. In such instances, tablets procured and distributed through NGOs, purchased from private clinics, or in the marketplace are regarded safer [3].

REFERENCES:


ACKNOWLEDGEMENT:

pregnant women and their families of rural areas of Kurnool district

Source of support: NIL.
Conflict of Interest: NIL.
INTRODUCTION:

Hygiene refers to practices and conditions that help to maintain health and prevent the spread of diseases. They include practices that deal with the preservation of health. Basic personal hygiene refers to the principle of maintaining cleanliness and grooming of the external body. It includes practices like bathing regularly, washing hands whenever necessary, trimming of finger and toe nails, wearing washed clothes daily, washing the hair, keeping hair clean from lice and dandruff, brushing the teeth, and caring for the gums. (1)

In developing countries, lack of personal hygiene and unhygienic living conditions favor person-to-person transmission of infection and seem to be an important factor for higher incidence of skin diseases, respiratory diseases, worm infestations, diarrhoeal diseases and dental diseases. These morbidities are found to be higher and more severe among children than adults. Infection and malnutrition form a vicious cycle compromising the child’s attendance and performance at school, retarding the child’s overall development, including physical, mental and social development. (2)
Children are the worst hit to the neglect of basic personal hygiene. WHO states that globally around 1.7 billion cases of diarrhoeal diseases occur every year killing around 7.6 lakhs of under fives every year. (3) Studies show that unsafe water, inadequate sanitation and lack of hygiene claim lives of more than 1.5 million under five children every year from diarrhea. Each year, children lose 272 million school days due to diarrhoea, and one in three school-aged children are infested with intestinal worms. (4) In India, only 59% urban and 22% rural people have access to improved water and sanitation facilities. (5)

A significant proportion of childhood communicable diseases can be prevented by promotion of hygiene practices, especially proper hand washing practices among school children through proper health education and behaviour change communication by their parents and teachers. Childhood is the best time for children to learn hygiene behaviors. These behaviors become habits later, which will remain permanent and unchanged. Children are the best instruments to carry health education messages to their families and friends, thereby facilitating community development. The high burden of communicable diseases among school children due to poor hygiene practices still remains a threat on the public health agenda in developing countries. (6)

Thus this study is conducted to assess the basic hygiene practices among school children in Chennai with a view to provide useful data to plan and design behavioral interventions for appropriate public awareness programmes.

**METHODOLOGY:**

**Study design:**
Cross sectional descriptive study.

**Study group:**
The target population included students of both sexes in 10-16 years age group.
The study population was defined as follows:

**Inclusion criteria:**
Students of both sexes between 10-16 years studying high school who were available at the selected schools in North Chennai

**Exclusion criteria:**
Students who were sick or absent during the time of data collection.

**Study Setting:**
Study area was selected as Royapuram by lots method from all the wards of North Chennai. The high schools in North Chennai were included in the study.

**Study Duration:**
The study was conducted between July and November 2015

**Sample Size:**
Based on a study conducted among urban school children in Ahmedabad, the sample size was calculated using the formula \(4pq/d^2\) and found to be 250. \(p=63\%, d=10\%\) of \(p=6.3\) and non response rate -10%).

From the list of all the high schools in Royapuram, two schools were selected randomly by lots method. Using table of random numbers, 125 students were selected from each selected school.

**Study Instrument:**
Standard pre-tested structured questionnaire used in 'Hygiene survey among school students' by Centre for Environment Education, Bangalore and Dettol HABIT study was modified according to the study population and used. The questionnaire consisted of three sections: socio-demographic details, questions on personal Hygiene and household Hygiene practices. All the hygiene practices were assessed based on their activities in the past 7 days. 15 out of 22 questions on hygiene practices were scored as 0 and 1. Healthy hygiene practices were given a score of zero and unhealthy hygiene practices were given a score of one. An overall score ranging from 0 to 15 was obtained. Scores between 0-5 denotes good hygiene practices and scores from 6-15 denote poor hygiene practices. The questionnaire was in English. It was translated into Tamil for students who do not have good understanding of English. The questionnaire was back translated into English for checking its accuracy.

**Data collection and analysis:**
Data was entered in Microsoft Excel and statistical analysis was done using SPSS v 21.

**Ethical considerations:**
Data was collected in the schools after obtaining permission from the Institutional ethics committee and school authorities. Informed consent was obtained from the participants for the study and strict confidentiality was maintained. Questionnaire was read out to the participants during face-to-face interview in the same order as listed and sufficient time was given to the subjects to respond, without probing the answer.
RESULTS:
The study included 125 respondents selected randomly from each selected school in North Chennai. 25 students from each class (VI to X Standard) were selected randomly from each school.

TABLE 1: Socio demographic details of the participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Category</th>
<th>Frequency (n=250)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>10 years</td>
<td>18</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>11 years</td>
<td>30</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>12 years</td>
<td>65</td>
<td>26</td>
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<td></td>
<td>13 years</td>
<td>45</td>
<td>18</td>
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<td></td>
<td>14 years</td>
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<td></td>
<td>15 years</td>
<td>32</td>
<td>12.8</td>
</tr>
<tr>
<td></td>
<td>16 years</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
<td>133</td>
<td>53.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>117</td>
<td>46.8</td>
</tr>
<tr>
<td>Religion</td>
<td>Hindu</td>
<td>157</td>
<td>62.8</td>
</tr>
<tr>
<td></td>
<td>Christian</td>
<td>59</td>
<td>23.6</td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>34</td>
<td>13.6</td>
</tr>
<tr>
<td>Socio economic Status</td>
<td>Upper</td>
<td>2</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>Upper middle</td>
<td>8</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Lower middle</td>
<td>43</td>
<td>17.2</td>
</tr>
<tr>
<td></td>
<td>Upper lower</td>
<td>89</td>
<td>35.6</td>
</tr>
<tr>
<td></td>
<td>lower</td>
<td>108</td>
<td>43.2</td>
</tr>
</tbody>
</table>

TABLE 2: Personal hygiene practices of the participants

<table>
<thead>
<tr>
<th>Practices</th>
<th>Frequency (n=250)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of brushing teeth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Once a day</td>
<td>178</td>
<td>71.20</td>
</tr>
<tr>
<td>Twice a day</td>
<td>72</td>
<td>28.80</td>
</tr>
<tr>
<td>Wash hands before eating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>241</td>
<td>96.4</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>3.6</td>
</tr>
<tr>
<td>Habit of using soap to wash hands after using toilet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>229</td>
<td>91.60</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>8.40</td>
</tr>
<tr>
<td>Wear washed uniform daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>176</td>
<td>70.40</td>
</tr>
<tr>
<td>No</td>
<td>74</td>
<td>29.60</td>
</tr>
<tr>
<td>Bathing frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once in 2 days</td>
<td>2</td>
<td>0.80</td>
</tr>
<tr>
<td>Once daily</td>
<td>198</td>
<td>79.20</td>
</tr>
<tr>
<td>Twice daily</td>
<td>50</td>
<td>20.00</td>
</tr>
<tr>
<td>Habit of biting nails</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>97</td>
<td>38.80</td>
</tr>
<tr>
<td>No</td>
<td>153</td>
<td>61.20</td>
</tr>
</tbody>
</table>
1. SOCIO-DEMOGRAPHIC CHARACTERISTICS:
The age of the participants ranged from 10 years to 16 years. The mean age of the study participants was 12.51 years with a standard deviation of 2.072. The socio-demographic details of the participants are shown in Table 1.

2. HYGIENE PRACTICES:
Questionnaire contained 22 questions regarding the cleanliness of the students and their households. Among the 250 students interviewed, 191 students (76.4%) practiced healthy hygiene practices (Scores between 0 to 4). Females had better hygiene practices than males. All the students brushed their teeth at least once a day, with 72 students (28.8%) brushing teeth twice a day, once after waking up and once before going to bed.

The study shows that most of the students (96.4%) washed their hands before eating and all of them washed their hands after eating. All the participants washed their hands with water after using toilet. But only 229 participants (91.6%) used soap to wash hands after using the toilet. Only 70.4% of the subjects wear washed uniform and socks everyday. Study showed that 20% students took bath twice daily and only 2 students (0.8%) take bath once in two days. Among the 250 students, only 11.2% students trimmed their nails once a week and 153 students (61.2%) do not bite their nails. 122 students (48.8%) gave history of having head lice sometime in their life.

TABLE 2: Household Hygiene practices of the participants

<table>
<thead>
<tr>
<th>Practices in households</th>
<th>Frequency (n=250)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pets at home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>61</td>
<td>24.4</td>
</tr>
<tr>
<td>No</td>
<td>189</td>
<td>75.6</td>
</tr>
<tr>
<td>Regular cleaning of pets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>7.6</td>
</tr>
<tr>
<td>No</td>
<td>42</td>
<td>16.8</td>
</tr>
<tr>
<td>No pets</td>
<td>189</td>
<td>75.6</td>
</tr>
<tr>
<td>Practices of using boiled water for drinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>230</td>
<td>92</td>
</tr>
<tr>
<td>Throwing wastes in dustbin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dustbin</td>
<td>41</td>
<td>95.6</td>
</tr>
<tr>
<td>Drains/ Ditches in front of the house</td>
<td>130</td>
<td>2.4</td>
</tr>
<tr>
<td>Anywhere on the road</td>
<td>79</td>
<td>2</td>
</tr>
</tbody>
</table>
lice sometime in their life, with most of them (86.1%) being girls. Few students (11.65%) had the habit of nose picking and 26.8% students had the habit of playing in mud and dirty water. The hygiene practices of the participants are shown in table 2.

The study shows that 61 students (24.40%) have pets at home. But, only 19 households (31.14%) kept their pets clean by regular cleaning. Only 4.4% did not throw the wastes in the dustbin regularly. Households of only 8% students used boiled water for drinking purposes.

**DISCUSSION:**

The current study is a school based cross sectional study conducted to estimate the prevalence of hygiene practices among students and their households in North Chennai. The findings of the study suggest that 76.4% practiced healthy hygiene habits, which was much better than the findings from studies done among urban school children in Ahmedabad, rural school students in Mangalore and school going children in Nigeria, which showed 67.2%, 63.4% and 54.9% students with good hygiene practices.(7)(9)(10)

**Healthy hygiene practices among the participants:**

Certain personal hygiene behaviors appeared to be universally strong among study participants, like washing hands after using the toilet, brushing teeth at least once a day, combing hair regularly and washing vessels daily after using.

Most of the hygiene practices were good in the study population. Vast majority (96.4%) washed their hands before eating and 91.6% students washed their hands with soap and water after using the toilet and most of them (99.2%) took bath daily. 11.65% had the habit of nose picking and 28.8% students brushed their teeth twice a day. These finding were similar to studies conducted among school going children in Ahmedabad(7) and much better than the findings in the studies among slum children of Kolkata(11) and among school children in south Kolkata(12), tribal area of Thane district(13) and in an urban area in Mumbai.(14) This is probably because the current study is conducted among urban school going children and effective health education activities.

**Unhealthy hygiene practices among the participants:**

Only 11.2% trimmed their nails once a week regularly, 38.8% had the habit of biting nails, 70.4% wore washed uniforms and socks to school daily and 26.8% played in dirty water. These findings show that certain personal hygiene practices were moderate among the study population. Studies done among primary school children in rural Ethiopia(15), in Abraka state, Nigeria(10) and in tribal areas of Thane district(13) also showed similar moderate hygiene practices in their respective study populations. Practice of trimming nails and wearing washed uniforms were better in studies conducted in Wardha district(16) and Bandra, Mumbai.(14) This shows the need for more motivation to the target population to strongly follow healthy hygiene practices.

In the current study, 48.8% students gave history of having head lice sometime in their life, with females more affected. A prevalence study of head lice done by a thorough literature search of studies done in Asia showed prevalence of 0.7% to 59% with females being more affected. (17) This high prevalence in the current study could probably be due to lack of examination for lice and nits and was based on history alone.

**Household hygiene practices among the participants:**

Vast majority of the households threw the wastes in the dustbin. Only 8% boiled water before drinking. A study done on the household’s hygiene practices among school children in western Kenya also showed that only 4.2% preferred boiling water for drinking.(18) Understanding the level of practices related to basic personal hygiene among target populations is necessary to plan and design behavioral interventions to bring about improvement in the overall health status of the community.

**RECOMMENDATIONS:**

Habits like trimming nails once a week and not biting nails, that would reduce helminthic infestations should be encouraged. Practice like brushing teeth twice a day should be inculcated to reduce the incidence of dental caries.(19) Practices like boiling water before drinking, throwing garbage in dustbin and frequent hand washing with soap and water should be improved to help reduce the incidence of diarrhoeal diseases.(19) Regular medical examination, increasing awareness on hair washing, habits like not sharing of towels and combs and preventing overcrowding would help reduce the prevalence of head lice in the study population.
LIMITATION:

The findings and interpretation of the present study are restricted to school-going children of North Chennai. Further studies are needed to cover the children of entire Chennai, children in rural areas and non-school-going children.

CONCLUSION:

The present study reveals healthy hygiene status with certain moderate hygiene practices among the school children in North Chennai. This shows the need to more effectively sensitize the school children to improve their hygiene status through measures like health education. Though their school curriculum and school health services provide health education, clinical assessment and monitoring of nutritional status, strong and sustained reinforcement through health education camps, participatory techniques, increasing emphasis on hygiene promotion in the school curriculum and setting up rallies, competitions and posters that increase awareness along with the school health services will help to improve the child health, self-esteem, life skills and behavior.

ACKNOWLEDGMENTS:

We are thankful to all the participants for their co-operation.

BIBLIOGRAPHY:

6. Kundu, N., Understanding of Slums ---case studies for the global reports on human settlements 2003. (Source: http://www.ucl.ac.uk/) urban slum reports, the case of Kolkata, India.(cited 2016 May 13)
16. Dongre AR, Deshmukh PR, Garg BS, others. The impact of school health education programme on personal hygiene and related morbidities in tribal school children of Wardha district. Indian J Community Med. 2006;31(2):81-


INTRODUCTION:

Recurrent laryngeal nerve is a branch from vagus nerve which supplies all intrinsic muscles of the larynx except cricothyroid and the mucous membrane below the level of the vocal cord. It also gives off cardiac branches near its origin and supplies the trachea, oesophagus and the inferior part of the pharynx. [1, 2]

At the root of the neck right recurrent laryngeal nerve arises from the vagus anterior to the first part of the right subclavian artery and curves backwards below and then behind it to ascend obliquely to the side of the trachea. Left recurrent laryngeal nerve arises from the left vagus on the left of the aortic arch, curves below it immediately behind the attachment of the ligamentum arteriosum and ascends to the side of the trachea or in the tracheo-oesophageal groove. The nerve then passes among the branches of inferior thyroid artery to the lobe of the thyroid gland and enters the larynx deep to the inferior border of the inferior constrictor muscle[3].

The recurrent laryngeal nerve is relatively “safe” within the tracheo-oesophageal groove[2]. When the recurrent laryngeal nerve lies in the para tracheal position, it is less protected and is more vulnerable to injury during the cauteryization of the inferior thyroid veins, because the nerve lies closer to the inferior thyroid veins, when present in this position[4]. The latest procedures of outpatient short stay thyroid surgery and minimally invasive video assisted thyroid lobec-

A STUDY TO OBSERVE THE VARIATIONS IN THE POSITION OF THE RECURRENT LARYNGEAL NERVE IN RELATION TO THE TRACHEO- OESOPHAGEAL GROOVE

J.Thilagavathi (1), V.Anandhi (2), Sudha Seshayyan (3)

Abstract

The relation of the recurrent laryngeal nerve with tracheo-oesophageal groove is highly variable making it vulnerable to injury during surgical manipulation of the neck. 70 Recurrent laryngeal nerves were dissected in 20 cadavers from department of Anatomy, Government Stanley medical college and 15 post-mortem en-bloc specimens from Institute of Forensic medicine, Government Stanley medical college. The relation of the recurrent laryngeal nerve with the tracheo-oesophageal groove was studied at two different levels;

1. At a level 2cms below the lower border of the cricoid cartilage.
2. At a level 1cm below the lower border of the cricoid cartilage. The results were tabulated and analyzed by tests for the significance of the difference in the proportions. At 2cms below the lower border of cricoid cartilage, 36 out of 70(51.4%) were seen in para tracheal position, 34 out of 70(48.6%) were within tracheo oesophageal groove. At 1cm below lower border of the cricoid cartilage, 59 out of 70(84.3%) were within the tracheo oesophageal groove, 11 out of 70(15.7%) were in the para tracheal position. The Chi – Square test showed statistically significant difference in the relationship of recurrent laryngeal nerve with tracheo oesophageal groove in the right and left side in both 2cm below (P < 0.02) and 1cm below (P<0.029) the lower border of cricoid cartilage. The significant variations observed in the relationship of the recurrent laryngeal nerve with the tracheo-oesophageal groove in the right and left side would be important for surgeons who do thyroidectomy and other neck surgeries.

KEY WORDS:
Recurrent laryngeal nerve, vagus nerve, tracheo-oesophageal groove & Chi-square test.
tomy using laparoscope to avoid scar in the neck, require a very precise knowledge of the normal and variant anatomy. Hence a study of the recurrent laryngeal nerve and its variations was undertaken.

**MATERIALS AND METHODS:**

Recurrent laryngeal nerve were dissected in 20 embalmed cadavers from the department of Anatomy, Government Stanley medical college and 15 post-mortem en-bloc specimens, from the Institute of Forensic medicine, Government Stanley medical college.

The dissection was carried out according to the methodology prescribed in the Cunningham’s practical manual. The skin was incised, reflecting superficial fascia, platysma, deep cervical fascia and exposing the sternothyroid, omohyoid, sternomastoid, and the origin of the recurrent laryngeal nerve was noted. Its relation with the tracheo-oesophageal groove was observed. Statistical analysis was done using chi-square test.

**RESULTS:**

Out of 70 recurrent laryngeal nerves dissected, 2cms below the lower border of the cricoid cartilage it was noted that in the right side, the recurrent laryngeal nerve was para tracheal in position in 65.7% and within the tracheo-oesophageal groove in 34.3% of cadavers. In the left side, the RLN was found 37.2% in para tracheal position and 62.8% within tracheo-oesophageal groove. No para oesophageal position of the recurrent laryngeal nerve was observed in any of the sides. (Table-1, Bar Chart-1)

At 1cm below the lower border of the cricoid cartilage, the recurrent laryngeal nerves were found to lie most frequently within tracheo-oesophageal groove on both sides. The para tracheal position was greater on the right side. However, the para tracheal position of the right recurrent laryngeal nerve in this level was lesser than that in the previous level. (Table-2, Bar chart-2)

In the current study, at both levels, the Chi-square test showed statistically significant differences in the position of the recurrent laryngeal nerve between the right and the left side.

**TABLE -1**

<table>
<thead>
<tr>
<th>SIDE OF THE NECK</th>
<th>SEX</th>
<th>FREQUENCY</th>
<th>WITHIN THE TRACHEA- OESOPHAGEAL GROOVE</th>
<th>PARATRACHEAL POSITION</th>
<th>PARA OESOPHAGEAL POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIGHT SIDE</td>
<td>Male</td>
<td>25</td>
<td>10</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>10</td>
<td>2</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>LEFT SIDE</td>
<td>Male</td>
<td>25</td>
<td>14</td>
<td>11</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>-</td>
</tr>
</tbody>
</table>
DISCUSSION:
The present study was done in 35 cadavers from the Department of Anatomy & Institute of Forensic medicine, Government Stanley medical college, to observe the variations in the position of the recurrent laryngeal nerve in relation to the trachea-oesophageal groove. The findings of the study have been found to correlate with most of the studies conducted in various set ups in India and other parts of the world.

In the right side, the recurrent laryngeal nerve was found in 23 out of 35 cadavers (65.7%) in para tracheal position and in 12 out of 35 cases (34.3%) within tracheo-oesophageal groove. In the left side, the recurrent laryngeal nerve was found 13 out of 70 cases (37.2%) in para tracheal position and in 22 out of 35 cadavers (62.8%) within tracheo-oesophageal groove. No para oesophageal position of the recurrent laryngeal nerve was observed. This is comparable with the description of HW Gray1, Berlin (1935) 5, John. E. Skandalakis et al., (1976) 6, Al-Salihi A.R. (1981) [7] and Haller study (2012) 8 but not with the findings of Bowden (1955) 9.

At 1cm below the lower border of the cricoid cartilage, the recurrent laryngeal nerves were found to lie most frequently within tracheo-oesophageal groove on both sides. The para tracheal position was greater on the right side. However the para tracheal position of the right recurrent laryngeal nerve was lesser in this level than that in the previous level. This is in conformity with Henry Gray’s description.

CONCLUSION:
The high risk position of the recurrent laryngeal nerve in the paratracheal position was seen in significant proportions on the right side at the level of 2cms below the lower border of the cricoid cartilage compared to the left side. A surgeon must be aware of this fact, while dealing with the inferior thyroid veins during thyroidectomies.

COMPETING INTERESTS.
None declared.

REFERENCES:

BAR CHART-2

| TABLE -2 | RELATION OF THE RECURRENT LARYNGEAL NERVE WITH TRACHEO OESOPHAGEAL GROOVE: |
| SIDE OF THE NECK | SEX | FREQUENCY | WITHIN THE TRACHEA- OESOPHAGEAL GROOVE | PARATRACHEAL POSITION | PARA OESOPHAGEAL POSITION |
| RIGHT SIDE | Male | 25 | 18 | 7 | - |
| | Female | 10 | 8 | 2 | - |
| LEFT SIDE | Male | 25 | 23 | 2 | - |
| | Female | 10 | 10 | - | - |


INTRODUCTION:

Unlike recent times, SBP remained an obscure entity earlier. Although Laënnec’s name had been connected with cirrhosis since the early 1800s, it was only much later that SBP was diagnosed as a separate entity. The papers of Kerr et al2 and Conn3, which were published within short duration of each year described SBP. Conn2 was the one who eventually coined the term (SBP) in his 1964 paper.

Though SBP can occur in nephrotic syndrome and other cause of ascites, most cases of SBP occurs in cirrhosis with severe hepatic derangement.

SBP is one of the best characterized infectious complication in patients with cirrhosis and ascites. Though it has been approximately six decades since SBP has been known, the prevalence rate almost remains the same inspite of all the developments. This makes a study essential to know the various determinants of SBP in a cirrhotic patient and various methods available to prevent and treat the same.

AIMS AND OBJECTIVES:

To determine the prevalence of Spontaneous Bacterial Peritonitis in Decompensated liver disease.

PLACE OF STUDY :- Department of General Medicine and Department of Pathology, Govt. Stanley Medical College

STUDY DESIGN :- Observational Study

STUDY PERIOD :- May 2015 to January 2016

INCLUSION CRITERIA

All patients with clinical features of Decompensated liver disease.

Abstract

Context:

Spontaneous bacterial peritonitis (SBP) is considered as bacterial infection of ascitic fluid without any intraabdominal, surgically treatable source of infections. Multiple variants of this infection with a different clinical setting and outcome have been described during the past decade. This study aims at diagnosing SBP early and preventing it as the cause of death in patients with cirrhosis and ascites.

Methods:

Ethical committee approval was obtained and with due informed consent from the study population, the study was undertaken during the time period of May 2015 to January 2016.

This is an observational study wherein 100 patients admitted in medicine ward with features of Decompensated liver disease were selected and subjected to a diagnostic paracentesis. About 10 ml of ascitic fluid was tapped and sent for analysis to determine the cell count and cytology.

Results:

The prevalence rate of SBP was about 15%. 13 out of 15 patients with SBP were symptomatic.

Conclusions:

SBP is one of the serious complications of cirrhosis with the prevalence rate of 10-30 %. It is imperative to diagnose SBP early and treat them with appropriate antibiotics and to institute secondary prophylaxis promptly once the diagnosis of spontaneous bacterial peritonitis has been made.
EXCLUSION CRITERIA
Patients on antibiotic therapy
Patients with ascites due to a nonhepatic cause
SAMPLE SIZE: 100

MATERIALS AND METHODS:

Ethical committee approval was obtained and with due informed consent from the study population, the study was undertaken during the time period of May 2015 to January 2016. This is an observational study wherein 100 patients admitted in medicine ward with features of Decompensated Liver Disease were subjected to a diagnostic paracentesis. About 10 ml of ascitic fluid was tapped and sent for analysis to determine the cell count and cytology. Ascitic fluid cell count was determined by manual method. Patients with ascitic fluid PMN >250 cells/cumm were considered positive for SBP. Other relevant investigations done and results analysed.

OPERATIONAL DEFINITION:

SBP is defined as ascitic fluid infection characterized by PMN cells ≥ 250/mm3 in the absence of any identifiable surgically treatable intra-abdominal source of infection.

Descriptive statistics was done for all data. The data is analyzed using EpiInfo software (7.1.0.6 version: Center for disease control, USA) and Microsoft Excel 2010.
RESULTS:

SBP POSITIVE

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>10</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>8</td>
</tr>
<tr>
<td>Abdominal tenderness</td>
<td>7</td>
</tr>
<tr>
<td>Altered mental status</td>
<td>5</td>
</tr>
</tbody>
</table>

DISCUSSION:

The study concluded that the prevalence of SBP in cirrhotic patients was 15%. 13 out of 15 patients with SBP were symptomatic. This is in accordance to most of the studies conducted worldwide.

Of the 13 patients who were symptomatic, 10 patients presented with fever, 8 with abdominal pain, 7 patients had abdominal tenderness and 5 patients presented with altered mental status.

It is also interesting to note that 7 patients presented with symptoms suggestive of SBP but the laboratory analysis was against the diagnosis.

About 60% of SBP patients were in the age group of 41-50 years.

Among the SBP positive patients bilirubin was >6mg in about 40% of patients and the rest had equal distribution between 2.1-6 mg/dl.

The evidence for transaminitis as seen in levels of AST and ALT proved that more than 50% of patients with SBP had their enzyme levels around 80-100. Only 20% of patients had their enzyme levels more than 200 U.

Studies have indicated that the prevalence rate of SBP in Decompensated liver disease related ascites is around 20-25%. The value of an early diagnostic paracentesis (<72 hours) has been proven by a reduction in the in-hospital mortality rate as compared to those patients who are subjected to a late paracentesis (after 72 hours).

Patients who suffer from DCLD related ascites may not present with the classical clinical features of SBP and it is imperative to determine whether the patient has SBP in order to institute appropriate antibiotic therapy to which the most prevalent organisms are susceptible.

This study aims to bring about a reduction in the mortality rate associated with SBP by diagnosing and instituting specific therapy at the earliest.

Similar study was conducted on 122 cases admitted in Department of Medicine, through emergency, in Guru Gobind Singh Medical College and Hospital, Faridkot, Punjab, India. Cases of cirrhosis with ascites between the ages of 18-75 years were included in this study. Of the 122, 27 (20.4%) patients were diagnosed as having SBP and its variants. Monomicrobial Bacterascites (BA) was present in 5 patients and Culture Negative Neutrocytic Ascites (CNNA) was present in 22 patients.

LIMITATIONS OF THE STUDY:

- The correlation with the duration of cirrhosis and the prevalence of SBP has not been made since most of the patients present late.
- The culture of ascitic fluid was not done.

REVIEW OF LITERATURE:

SBP is the first and most common Ascitic Fluid infection described.
SBP is always monobacterial and the presence of more than one bacterial species in ascitic fluid should raise the suspicion of diagnosing secondary peritonitis.

EPIDEMIOLOGY:

The frequency of SBP in cirrhotic patients may be as high as 18%. This number has grown from 8% over the
past 20 years, most likely due to an increased awareness of spontaneous bacterial peritonitis and a lowered threshold to perform diagnostic paracentesis.

In patients with ascites, both sexes are affected equally.

**PATHOGENESIS:**

Bacterial translocation (BT), is the key mechanism in the pathogenesis of SBP. 10-14

An alternative proposed mechanism for bacterial inoculation of ascites is haematogenous transmission in combination with an impaired immune system. Nonetheless, the exact mechanism of bacterial displacement from the GI tract into ascitic fluid remains controversial.

A variety of factors contributes to peritoneal inflammation and bacterial growth in ascitic fluid. Intestinal bacterial overgrowth, along with impaired phagocytic function, low serum and ascites complement levels, and decreased activity of the reticuloendothelial system, contributes to an increased number of microorganisms and decreased capacity to clear them from the bloodstream, resulting in their migration into and eventual proliferation within ascitic fluid.

**OTHER VARIANTS OF ASCITIC FLUID INFECTION**

- **CULTURE NEGATIVE NEUTROCYTIC ASCITES**
  
  Culture-negative neutrocytic ascites (CNNA) is diagnosed when (1) the ascitic fluid culture grows no bacteria, (2) ascitic fluid PMN count is 250 cells/mm3 (0.25 × 10^9/L) or greater.

- **MONOBACTERIAL NONNEUTROCYTIC BACTERASCITIS**
  
  Monomicrobial non neutrocytic bacterascites is a form in which the cultures from the ascitic fluid are positive but the number of PMN is <250/cumm. mm3.

- **SECONDARY BACTERIAL PERITONITIS**
  
  Secondary bacterial peritonitis is diagnosed when the ascitic fluid culture is positive (usually for multiple organisms), the PMN count is 250 cells/mm3 or greater, and an intra-abdominal surgically treatable primary source of infection has been identified.

- **POLYMICROBIAL BACTERASCITIS**

**ETIOLOGY:**

Traditionally, three fourths of spontaneous bacterial peritonitis infections have been caused by aerobic gram-negative organisms (50% of these being Escherichia coli).

The remainder has been due to aerobic gram-positive organisms (19% streptococcal species).

However, some data suggest that the percentage of gram-positive infections may be increasing. One study cites a 34.2% incidence of streptococci, ranking in second position after Enterobacteriaceae. Viridans group streptococci (VBS) accounted for 73.8% of these streptococcal isolates. Anaerobic organisms are rare because of the high oxygen tension of ascitic fluid. A single organism is noted in 92% of cases, and 8% of cases are polymicrobial.15

**CLINICAL MANIFESTATIONS OF SBP:**

The clinical manifestations of SBP are subtle and require a high index of suspicion.

SBP mostly occurs in large volume ascites in patients with cirrhosis. Patients with cirrhosis usually have hypothermia; Therefore, any temperature > 37.8deg should be investigated. Fever is the most common symptom. Other features include abdominal pain and tenderness, nausea, vomiting and gastrointestinal [GI] bleeding15. In patients with variceal haemorrhage, the frequency of SBP is significantly increased, and prophylaxis against SBP is recommended when patients present with UGI bleeding. There may be alterations in mental status. Thirteen percent of patients have no signs or symptoms. Paralytic ileus and hypotension are seen in advanced illness.

Only few patients with SBP present with typical symptoms of peritoneal infection as fever, abdominal pain and peripheral leukocytosis, SBP is more frequently suspected when the patient develops signs of hepatic encephalopathy, increase of the abdominal volume or renal dysfunction without any apparent precipitating factor. In addition to this, in a significant part of the cases, SBP can be completely asymptomatic and the diagnosis can be done only by analyzing the paracentesis results. If ascitic fluid infection is suspected, ascitic fluid total and differential count and ascitic fluid culture should be done, with inoculation of the material in blood culture bottles at the bedside.

**TECHNIQUES AND LABORATORY:**

The diagnostic algorithm proposed by Runyon remains the method of choice for diagnosing SBP. Diagnostic paracentesis is now regarded as a safe procedure. The accepted area of preference is away from the midline, at the point of maximal dullness, and ideally in the left iliac fossa, two fingerbreaths medial and two ventral to the anterior superior iliac spine (“Runyon’s spot”).12
DIAGNOSIS:
Diagnosis is made by looking for signs and symptoms of SBP and confirmation with ascitic fluid examination. Physical examination findings include hypotension, tachycardia, altered mental status and abdominal tenderness. Ascitic fluid neutrophil count >250 cells is the accepted criterion. Ascitic fluid should be cultured to identify bacteria. Granulocyte elastase and lactoferrin released by activated PMNs are elevated in patients with SBP. Lactoferrin shows notable sensitivity (95.5%) and specificity (97%) for diagnosing SBP.

Bacterial cultures require several days to obtain results. Hence, bacterial DNA detection and sequencing is increasingly being used to diagnose various infectious diseases. The reagents used for DNA extraction procedures carry a risk of exposing the clinical samples to exogenous bacterial DNA. Although PCR is a very sensitive method for detecting DNA, PCR-based methods display discrepant and controversial findings with respect to diagnostic performance in detecting the causative pathogens in SBP.

TREATMENT:
Appropriate antibiotic therapy should achieve resolution of infection in most cases of SBP.

INTRAVENOUS ANTIBIOTICS
Third generation cephalosporins are the antibiotics of choice with many studies confirming high levels of SBP resolution. Cefotaxime 2 g every eight hours, has been shown to result in excellent ascitic fluid levels (20-fold killing power after one dose). Cefotaxime, has been shown in a controlled trial to be superior to ampicillin plus tobramycin for the treatment of spontaneous bacterial peritonitis. 98% of causative organisms were susceptible to cefotaxime, which did not result in superinfection or nephrotoxicity. In patients with a serum creatinine level greater than 3 mg/dL, the dosing interval may be extended to 12 hours.

ORAL ANTIBIOTICS
Oral ofloxacin has been reported in a controlled trial to be as effective as parenteral cefotaxime in the treatment of spontaneous bacterial peritonitis in patients who do not have vomiting, shock, bleeding, or renal failure. Because of the possibility of fluoroquinolone resistance in patients receiving fluoroquinolones to prevent spontaneous bacterial peritonitis, the empirical use of this class of drug to treat suspected spontaneous bacterial peritonitis should be avoided.

INTRA VENOUS ALBUMIN
Renal impairment occurs in 33% of episodes of spontaneous bacterial peritonitis. Spontaneous bacterial peritonitis leads to increased intraperitoneal nitric oxide production, which in turn further increases systemic vasodilatation and promotes renal failure. Intravenous albumin (1.5 g/kg of body weight at the time the infection is detected and 1.0 g/kg on day three) can increase intravascular volume and, in combination with cefotaxime, has been shown in a large randomized trial to reduce the risk of renal failure.

PROPHYLAXIS:
The recurrence rate of SBP following a first episode is up to 70% at 1 year. Therefore, it is necessary for prophylaxis to this group of patients and referral for transplant assessment. This therapy is backed up by evidence showing a reduction in recurrence of SBP from 68% to 20% in one study. Norfloxacin 400 mg/d or ciprofloxacin 500 mg/d orally is the most studied and commonly recommended regime.

CONCLUSION:
SBP is one of the serious complications of cirrhosis with the prevalence rate of 10-30%. It is imperative to diagnose SBP early and treat them with appropriate antibiotics. In view of the possibility of asymptomatic infection and high mortality of SBP, it is advisable to carry out routine diagnostic tap in all cirrhotics with ascites at hospital admission. Further, the success rate of treatment with early institution of antibiotics in SBP is high thus emphasizing the value of early diagnostic tap.

REFERENCE:
5. Angeloni S, Leboffe C, Parente A, Venditti M,


15. Koulaouzidis A et al. Spontaneous bacterial peritonitis
INTRODUCTION:
Inguinal hernias by far are the most common types of hernias seen in our tertiary care settings.1-3 The estimated lifetime risk for inguinal hernia is 27% for men and 3% for women.4 Inguinal hernia repair is one of the commonest operations done and the choice of a method depends on the surgeon as there were no written surgical guidelines for hernia treatment till 2009.5-7

COMPARISON OF MESH AND NON-MESH METHODS OF INGUINAL HERNIA REPAIR IN A TERTIARY CARE SETUP – A TRIPLE BLIND RCT STUDY OVER 2 YEARS PERIOD

P.Sumathi (1), G.Raj Ashok (1)

Abstract
Aims:
To assess and compare the efficacy of Desarda’s no mesh repair over mesh hernia repair (Lichenstein repair and Lap hernia repair-TAPP) for the treatment of inguinal hernia, To compare the complications associated with both modalities, To decide on the better treatment for inguinal hernia from the study findings.

Methods and Material:
This prospective randomized study conducted among patients visited Govt Mohan kumaramangalam medical college hospital - a tertiary care centre in Salem,Tamilnadu. Sixty patients with unilateral, primary, reducible inguinal hernia were randomly distributed in to Three groups to undergo hernia repair i.e. Lichtenstein/TAPP and Desarda’s. Outcome was measured in terms of mean operative time , acute post-op pain,duration of hospital stay,day of return to normal gait and and recurrences.

Results:
Study comprised 40 patients over 50 years of age whereas remaining 35 patients were below 50 years.No statistical difference observed regarding age,sex,type of hernia duration of hernia in both the groups.duration of surgery was 49 minutes in Desarda’s group and 54 minutes in Lichenstein’s group and 1hour 15 mins in TAPP group.No surgical site infections in the Desarda’s group and TAPP group when compared to Lichenstein’s where there were 3 cases (10%). Complications like scrotal edema,testicular atrophy,foreign body like sensation,loss of sensation over groin were not seen in desarda’s group and TAPP group whereas its occurrence was highly significant (p<0.01) in lichenstein’s group.Mean hospital stay was 3 days in TAPP group, 4 days in desarda’s group while it was 6 days in lichenstein repair among the study group.Over a two year follow up there were no recurrences in all three groups.

Conclusions:
Desarda’s no mesh repair is a physiologically sound,easy to learn and simple method associated with less duration of surgery with less post-operative complications and rapid recovery time with an added advantage that it can be performed in contaminated surgical fields and for individuals with financial restraints.Compared to Lichenstein’s repair and trans abdominal pre-peritoneal repair, Desarda’s repair hereby produces same or better results.

Key-words: Inguinal hernia, Trans abdominal pre-peritoneal repair(TAPP), Lichtenstein repair, Desarda’s repair

SUBJECTS AND METHODS:
This randomized control trial was carried out in Department of Surgery, Govt Mohan kumaramangalam medical college hospital Salem,Tamilnadu from September 2013 to

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(1) Department of general surgery, Govt. Mohan Kumaramangalam medical college & hospital, Salem, Tamilnadu
September 2015. Seventy five patients with unilateral, pri-
mary, reducible inguinal hernia determined by clinical ex-
amination were selected. Duration of the repair was started at the beginning of a particular repair technique since inci-
sion to suturing,with recording done in minutes. After ap-
proval from ethical committee board, patients attended out-
patient department were evaluated and the patients fulfilling
the inclusion criteria were included in the study after taking
the informed consent.Elderly people with thinned out ex-
ternal oblique aponeurosis,pregnant females,children,obese individuals and those with bilateral,recurrent complicated
hernia individuals were excluded. All the operations were
carried out by same surgical team under regional anesthe-
sia/local anaesthesia. Included patients were randomly di-
vided into 3 groups using random table i.e., one group in
which hernia was repaired by standard mesh (Lichenstein)
second group by Desarda's method and third group by la-
poroscopic TAPP repair. (25 in desarda arm,25 in the lichen-
stein arm 25 in lap mesh repair) The outcome measures
were evaluated at 2 weeks,1 month,2 months,6 months,1
year and 2 years.The collected data was analysed with
SPSS 16.0 version.To describe about the data descriptive
statistics,frequency analysis,percentage analysis were used
for categorical variables and the mean and S.D were used
for continuous variables.To find the significant difference
between the trivariate samples unpaired sample t-test was
used.To find the statistical significance in categorised data
chi-square test was used.Probability value 0.05 is considered
as significant level.

RESULTS:

Seventy five patients were included in our sampled popu-
lation with age distribution ranged from 19 to 62 years. With
mean age distribution around 48 years..40 patients (41.7%) were either 50 years of age or above whereas remaining 35
patients (58.3%) were below 50 years of age. Average du-
ration of hernia in desarda group patients was 7 months
whereas in lichenstein and lap technique it was 11 months.
Mean Operative time for desarda’s no mesh repair was
49 mins (95% confidence interval of the difference lower
-7.927;upper -2.940) whereas for lichenstein’s repair around
54 minutes.( 95% confidence interval of the difference lower
-7.933;upper -2.933)(p:0.000).Regarding groin pain,in our
study patients where classified into those who had pain for
<3 days,3-7 days,>7 days.70%of the patients in the Desarda
group experienced pain only for less than 3 days whereas
46.7% and 33.3% of the patients in Lichenstein's method
had pain for 3-7 days and more than 7 days respectively 40%
patients in the laparoscopic repair experienced pain for 3-7
days.Surgical site infection was higher in mesh repair (10%)
when compared to Desarda’s technique(0%).Foreign body
sensation, Loss of sensation and Abdominal wall stiffness
was present in TAPP and Lichenstein’s group.Time taken to
return to normal activity was within 7 days in most of
Desarda’s group (63.3%)whereas it is 7-15 days in 60% of
Lichenstein's group patients and 7-10 days in 40% laparo-
scopic mesh repair group.

DISCUSSION:

Various studies show that desarda’s technique is associated
with lesser duration of surgery and lesser post op complica-
tions like groin pain,abd.wall stiffness,duration of hospi-
tal stay and time to return to normal activity.Desarda et al
showed average duration to return to work in the Desarda’s
group as 8.26 days whereas it was 12.58 days in the Lichen-
stein’s group .Also it has showed the chances for recurrence
as 1.97% but it was observed over 10 year followup.Our
study findings correlates very well with the desarda et al
study findings except for the fact that to identify the recur-
rence it necessitates large scale and longterm followup.

REFERENCES:

1. Sheikh SA, Iqbal M, Mustafa N, Muhammad I, Farooq U,
Mehmood Y. Non-mesh repair of adult inguinal hernia: a
2. Ghafoor T, Rehan TM, Amjad S, Waseem M, Anwar
MS. Sutureless tension free Lichtenstein repair: a safe op-
tion for indirect inguinal hernia. J Sheikh Zayed Med Coll
3. Malik AM, Khamiso AK, Talpur AH, Laghari AA. Fac-
tors influencing morbidity and mortality in elderly popula-
tion undergoing inguinal hernia surgery. J Pak Med Assoc
4. Staerkle RF, Buchli C, Villiger P. Patient satisfaction,
hernia recurrence rate, and chronic pain 10 years after en-
doscopic total extraperitoneal inguinal hernia repair. Surg
5. Situma SM. Comparison of Desarda versus modified
Bassini inguinal Hernia repair: a randomized controlled
6. Szczesny W, Szopinski J, Reslinski A. Early postopera-
tive pain after Lichtenstein and Desarda hernioplasty. Polish


8. Inguinal herniorrhapsy with an undetached strip of external oblique aponeurosis: a new approach used in 400 patients (Eur J Surg 2001 jun;167(6) dr.Mohan.P.Desarda m.s. (g.s)


11. Comparison of Desarda vs Modified Bassini’s repair – a RCT by M.Situma et al

12. Comparison of non mesh with mesh repair at Mulago hospital a short term DBRCT by Dr.William manyilirah et al

13. History of ing.hernia repair.a Van Hee institute of history of Medicine and Natural sciences,Univ.of Antwerp,Belgium

14. Surg.physiology of ing.hernia repair- a study of 200 cases- Mohan P Desarda
FOR MOST DIAGNOSES ALL THAT IS NEEDED IS AN OUNCE OF KNOWLEDGE, AN OUNCE OF INTELLIGENCE, AND A POUND OF THOROUGHNESS
BASAL CELL CARCINOMA-
AN UNUSUAL PRESENTATION

Sumathi(1), Ganesh Kumar(1), Towfical(1)

Abstract

Giant basal cell carcinoma (BCC), defined as a lesion greater than 5 cm at its largest diameter, is a rare variant of BCC accounting only for 0.5%. In contrast to small BCC, giant BCC develops on skin that is not exposed to sunlight, including the back, shoulder, groin and thigh. We present here a 65 year old male patient attended our outpatient department with a Giant BCC without any predisposing factors.

Key-words: giant basal cell carcinoma.

INTRODUCTION:

Basal cell carcinoma (BCC) though the most common skin cancer in the world, comparatively uncommon in Asian countries. As they are typically identified early, it is rare to see bcc's grow beyond 5 cm in diameter; when this does occur, the term giant basal cell carcinoma applies. Because of the rarity of such extensive lesions, there is no consensus on treatment. We present here a 65 year old male with Giant BCC treated with wide local excision and primary reconstruction.

CASE HISTORY:

A 65 year old Male, farmer by occupation, came with complaints of ulcerative growth over right forehead existing for past two years. No history of pain or bleeding from growth. No significant comorbid illness present. On examination 5×6cm ulcerative growth over right forehead just over the eyebrow with beaded margins. No fixity to underlying muscle.

Regional lymph nodes were not palpable and the remainder of physical examination was not contributory. Laboratory test results including complete blood cell count, urine analysis, liver function test, chest X-ray and electrocardiogram were within normal limits or negative.

Biopsy taken from edges showed budding and irregular proliferation of tumor tissue attached to the undersurface of the epidermis. The peripheral cell layer of the

FIG 1: Ulcerative growth over right forehead just over the eyebrow with beaded margins.

FIG 2: Tumour excision

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tumor formations usually displayed palisading. In addition, a mild amount of a nonspecific chronic inflammatory infiltrate was present in the upper dermis, which is a typical feature for superficial BCC. Considering its locally invasive nature we planned for surgical wide local excision (WLE) and primary reconstruction by flap cover. Anterior branch of Right Superficial Temporal artery based flap cover with split skin graft done after excision.

DISCUSSION:
The American Joint Committee on Cancer Classification of Skin tumors is based on the largest diameter: (T1, ≤2 cm; T2, >2 cm but <5 cm; T3, ≥5 cm). Giant BCC is a T3 tumor. Giant BCC only accounts for 0.5% of BCC’s, with some common epidemiological factors that include race, multiplicity of tumors, development on sun-covered areas, neglect and tumor chronicity. In contrast to patients who develop a single small BCC, giant BCC frequently develops on skin that is not typically exposed to sunlight, including the back, shoulder, leg and thigh. Although typically an indolent, slow-growing cancer, these can become aggressive and locally invasive if left untreated. For the treatment of giant BCC, a variety of modalities have been used with inconsistent results. Treatment includes surgical excision and grafting, radiation therapy, and chemotherapy.

CONCLUSION:
Giant BCCs greater than 20 cm in diameter are exceedingly rare. Treatment is often difficult; metastatic rates and mortality dramatically increase with these large lesions. Beyond all these facts we presented this case to share these features:

1. Giant BCCs greater than 5 cm in diameter are exceedingly rare;
2. Lesion involving more than two subunits (eyebrow, forehead) is unusual.
3. Nil donor site morbidity in our reconstruction
4. Achieved 100% functional reconstruction without ptosis.
5. Major vessel preserved (superficial temporal artery)

CONFLICTS OF INTEREST: None declared.

REFERENCES:
INTRODUCTION:

Polythelia is a congenital anomaly of the breast where in there are accessory nipples along the milk line apart from the normal two nipples. Amazia, polymazia, Polythelia, athelia are few congenital anomalies of the nipple areolar complex. Though Polythelia is incidental, the clinical significance here is lactational mothers can lactate in the accessory nipples.

CASE REPORT:

A 40 year old female presented to the breast clinic with queries regarding her nipples and its association with breast carcinoma. She had six nipples and she complained of pain in her both the breast. On examination she had Polythelia (Fig1) with no lump breast. She denied of lactation from the accessory nipples. She underwent triple assessment for breast pathology. There was no evidence of breast carcinoma. She was reassured and advised follow up.

DISCUSSION:

Supernumerary nipples are more than two nipples which normally exist in humans. Polythelia or supernumerary nipple is a rare condition with higher prevalence in males than in females with the ratio of 1.7:1. The maximum reported number of nipples in a person with Polythelia is seven in a male. The usual presentation of polythelia is with three nipples.

Mammals have six to seven nipples, which are common among canines and felines. It is rare to see humans with more than three nipples. The incidence is 1-5 percent in the population [1]. Breast and nipples develop along the mammary ridge and Supernumerary nipples are found along this ridge starting from both axilla running down on the ventral aspect of the chest and abdomen and end in the groin on each side. Accessory nipples are supernumerary nipples found along the mammary ridge and Ectopic nipples occur away from the mammary ridge. The various sites of ectopic polythelia are vulva, sole of the foot and umbilicus.

Polythelia is associated with urinary tract anomalies, cardiac conduction disturbances, preauricular appendages, epibulbar lipodermoids and segmentation of the vertebrae. 90% of the polythelia occur in the chest and 5% occurs in axilla.
and abdomen. Familial polythelia runs in families and are associated with anomalies. It is rare to see more than three nipples in humans.
In the year 1915, Kajava classified anomalies of the nipple based on the presence of glandular tissue; nipple, areola, fat and hair patch [2]. Clear cells of Toker are increased in the supernumerary nipples [3]. Polythelia is a cosmetic disfigurement and surgical excision is done if patient requests.

REFERENCES:

2. Kajava Y. “The proportions of Supernumerary nipples in the finnish population” Duodecim 1915; 1:143-70
3. Willman JH1, Golitz LE, Fitzpatrick JE, J Cutan Pathol. 2003 Apr;30[4]:256-60

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Conflicts of interest: Nil
Sources of support: Nil
INTRODUCTION:

Hemiparesis occurs due to various etiologies such as infarction, malformations, cortical dysplasia and gliosis. Schizencephaly is extremely rare with an estimated incidence of 1.5 per 100,000 live births which may present as hemiparesis. Schizencephaly is a congenital disorder of cell migration with defect in sulcation. It is characterized by cleft in cerebral mantle, which communicates between ventricular system medially and the subarachnoid spaces laterally. In type I or closed-lip schizencephaly, the cleft walls are in apposition and type II or open lip schizencephaly, the cleft walls are separated. Motor deficits are the predominant manifestations in open-lip schizencephaly. Neuroimaging is useful in locating the defect and associated malformations.

CASE HISTORY:

7 year-old girl born for third degree consanguineous parents presented with weakness of left upper and lower limb since birth. There was no H/O of seizures or trauma. Child was born at term, by vaginal delivery. Antenatal, natal, and postnatal periods were uneventful. Child had global developmental delay. On examination child had left hemiparesis with mild deviation of angle of mouth towards left and left upper limb atrophy (Figure 1). Ophthalmal and ENT evaluation was normal. Patient had subnormal intelligence. The rest of the systemic examination was normal. CT of brain (Figure 2) showed CSF filled cystic lesion noted in right precentral gyrus lined by grey matter and communicating with right lateral ventricle. Absent septum pellucidum features consistent with open lip schizencephaly.

FIGURE 1: Atrophy of left upper limb

Abstract

Neuronal migration disorder is a rare cause of seizure, weakness and developmental delay. It is mostly sporadic, although a few familial cases have been described. Individuals with clefts in both hemispheres or bilateral clefts, are often developmentally delayed and have delayed speech and language skills and corticospinal dysfunction. Individuals with smaller, unilateral clefts may be weak or paralyzed on one side of the body and may have average or near-average intelligence. Outcome and presentation of schizencephaly are variable, but it typically presents with seizures, hemiparesis, and developmental delay. Here we report a case of open lip schizencephaly.

Key-words: Neuronal migration disorder, schizencephaly, hemiparesis.
Key message: Congenital hemiparesis one should consider the presence of neuronal migration disorders like schizencephaly.
DISCUSSION:

Schizencephaly is the most severe form of neuronal migration disorder. The clefts can be unilateral or bilateral, symmetric or asymmetric. Only one-half of the schizencephaly cases are bilateral. In bilateral, only 20% are of mixed type (type I and II). Type II occurs more common than type I. They can appear anywhere in the brain, although they are usually peri-sylvian. In either instance the cleft is lined by gray matter. Presentation and outcome of children are related to extent of cortex involved. The presence of schizencephalic clefts lined by grey matter suggests that these defects occur early in the second to fifth month gestation, prior to the completion of neuronal migration. Etiologies include in utero infections - cytomegalovirus and herpes virus. Other etiologies include teratogens, alcohol and drug abuse, warfarin, and monozygotic twin interactions. In our case, there were no stigmata of congenital infections. Clinical presentation depends on size and location of the lesion. Bilateral clefts are generally associated with quadriaparesis and severe cognitive impairment. MRI identifies the anomalous grey matter along the cleft as well as the associated abnormalities. 

CONCLUSION:

This case is reported for its rarity. Congenital hemiparesis one should consider the presence of neuronal migration disorders like schizencephaly. Appropriate diagnosis is necessary for counselling and for offering prognostic information to parents.

REFERENCES:

INTRODUCTION:

George Bardet in 1920 and Arthur Biedl in 1922 independently described this syndrome. In 1925, Solis-Cohen and Weiss who rediscovered the paper by Laurence and Moon which was published in 1865, considered these conditions to be the same and called it the Laurence-Moon-Bardet-Biedl Syndrome (LMBBS). On the basis of clinical features, Bardet-Biedl Syndrome (BBS) has rod-cone dystrophy, obesity, postaxial polydactyly, learning disabilities and hypogonadism (males). Laurence-Moon Syndrome (LMS) is characterised by retinitis pigmentosa, mental retardation, hypogenitalism and spastic paraparesis but no polydactyly. Moore et al concluded that BBS and LMS are different spectrum of same entity, after a 22-year prospective cohort study of 46 patients from Newfoundland with BBS. The variable manifestations of this syndrome can be explained at molecular basis by ciliopathy. BBS is now the preferred term. It is relatively common in regions with high frequency of consanguinous marriages, such as Bedouins of Kuwait (1:13,500) and Newfoundland (1 in 17,500). The prevalence rate in India is not known. This is undoubtedly a major problem with under-diagnosis.

CASE REPORT - PAEDIATRICS

BARDET–BEIDL SYNDROME WITH RICKETS


Abstract

Bardet-Biedl syndrome (BBS) is a rare ciliopathic genetically heterogenous disorder with wide spectrum of clinical features. They present with varied signs and symptoms among affected individuals, even among members of the same family. The pattern of inheritance is autosomal recessive. They affect male and females equally. Here we report a case of 7 year old boy who presented with rod-cone dystrophy, polydactyly, obesity, learning disabilities, hypogonadism, renal damage, speech disorder and developmental delay. He had chronic kidney disease with secondary hyperparathyroidism and renal rickets. Only less than 20 cases of BBS have been reported in India so far.

Key-words:
Bardet Beidl syndrome, syndactyly, polydactyly, obesity, rickets, hypogonadism

CASE HISTORY:

A 7 year old boy was brought to our hospital with one month history of both knee joint pain and swelling with progressively increasing bowing of legs and inability to walk. He was a first born male child out of non-consanguinous marriage of a 32 year old father and 28 year old mother. The antenatal and perinatal period was uneventful. It was a full term normal vaginal delivery and his birth weight was 2.5 kg. There was a delay in his developmental milestones but was not attended to till the child presented in our hospital. He also had difficulty in speech. His past history revealed poor scholastic performance and difficulty in vision at night. He had a 5 year old younger sister. There were no similar histories in family members.

He was short statured and overweight with a height of 97 cm (<3rd percentile) and weight of 17 kg (3rd to 10th percentile) and BMI 18.07 kg/m2. His blood pressure was 100/60 mm Hg. Examination revealed pallor, bilateral genu varum and widened wrists. He also had hypogonadism, postaxial polydactyly and left upperlimb syndactyly (Fig 1 and 2). System examination was normal. His IQ was <70. Laboratory investigations showed Hb 9 g%, fasting blood sugar 87 mg/dl and random blood sugar 134 mg/dl. His Liver function tests showed raised ALP (997 IU/L), S.Cholesterol 101 mg/dl and S.Triglicerides

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283 mg/dl. His s.c calcium level was 8.7 mg/dl and phosphorus was 5.4 mg/dl. His Blood urea was 72 mg/dl and s. creatinine 2.5 mg/dl. His S.parathyroid hormone level was markedly elevated(574 pg/ml). Total Vitamin D levels was 24.3 ng/ml. USG abdomen showed Grade 3 RPD. Imaging studies confirmed rickets (Fig 3).

Ophthalmic fundus examination revealed clear media in both eyes with disc pallor, normal cup disc ratio, arteriolar attenuation with AV ratio 1:3, Diffuse RPE motting and altered sheen in macula, all suggestive of rod cone dystrophy (Fig 4).

According to modified diagnostic criteria by Beales et al2,3, the child was clinically diagnosed to have Bardet-Beidl syndrome with chronic kidney disease leading to renal rickets and secondary hyperparathyroidism. ECHO, hearing evaluation, Thyroid function tests and MRI brain with spine screening turned out to be normal. Child was treated symptomatically and is now on regular follow up. Mutational analysis was not done due to lack of affordability.

**DISCUSSION:**

BBS is a recessively inherited pleotropic disorder where both parents are phenotypically normal. LMBBS genes have been identified so far accounting for more than 80% cases and there are still more genes to find. Majority of pathogenic mutations are found in BBS1 and BBS10, accounting for 23.2% and 20%, respectively4. BBS Genes are known or suspected to play critical roles in cell structures called cilia. It is believed that defective cilia are responsible for most of the features of Bardet-Biedl syndrome. Until all genes are located and cloned and mutations in them found, we will not be able to provide an accurate diagnostic test pre- or postnatally. As we come across phenotypic overlap exhibited between various ciliopathies, there is emerging evidence suggesting that genes mutated in BBS and other ciliopathies exhibit some genetic overlap. Hence differential diagnosis include Meckel syndrome5, Joubert syndrome6 and McKusick Kauffman syndrome7, 8

Four primary features or three primary and two secondary features are needed for diagnosis based on Modified Diagnostic criteria by Beales et al2. Rod cone dystrophy is present in 96% of the cases followed by obesity (75%) and polydactyly (66%). Our case had six primary features and two secondary features (Table 1).

A significant number (30%) of patients develop symptoms or signs of renal disease ranging from recurrent urinary tract infections (associated with reflux) to chronic renal failure. 5% develop end-stage renal failure (ESRF) requiring dialysis or transplantation. Renal abnormalities are
a major cause of morbidity and mortality in BBS10. The renal phenotype is variable but they classically manifest with cystic tubular disease and anatomical malformations9. Urinary concentration defects are prevalent even in patients with near-normal renal function and no major cysts11 presenting as nephrogenic diabetes insipidus. Our case presented with chronic renal failure with secondary hyperparathyroidism and rickets.

Management is based on a multidisciplinary approach requiring the coordinated efforts of a team of pediatricians, nephrologists, ophthalmologists, orthopedicians, endocrinologists, cardiologists, dental specialists, speech pathologists, audiologists and other healthcare professionals. Although research is in progress, there is still no targeted treatment and cure for BBS. Symptomatic treatment of complications associated with BBS ensures good prognosis. They should undergo regular ophthalmologic examinations and periodic assessments to look for complications potentially associated with the disorder such as kidney dysfunction, diabetes mellitus, liver function and high blood pressure. Early intervention is important in ensuring that children with Bardet-Biedl syndrome reach their highest potential. Genetic counseling may be of benefit for affected individuals and their families.

Table1: Modified diagnostic criteria for BBS

<table>
<thead>
<tr>
<th>Primary features</th>
<th>Secondary features</th>
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<tbody>
<tr>
<td>Rod-cone dystrophy-(96%)</td>
<td>Speech disorder- (&gt;50%)</td>
</tr>
<tr>
<td>Polydactyly-(66%)</td>
<td>Brachydactyly</td>
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<tr>
<td>Obesity-(75%)</td>
<td>Developmental delay</td>
</tr>
<tr>
<td>Learning disabilities-(53%)</td>
<td>Polyuria/polydipsia</td>
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<tr>
<td>Hypogonadism in males</td>
<td>Ataxia</td>
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<tr>
<td>Renal anomalies-30% symp</td>
<td>Poor coordination/clumsiness</td>
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<tr>
<td>ESRF-5%</td>
<td>Diabetes mellitus-15%</td>
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<td>Left ventricular hypertrophy</td>
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<td></td>
<td>Hepatic fibrosis</td>
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<td>Speech disorder-(&gt;50%)</td>
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<td>Brachydactyly</td>
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<td>Developmental delay</td>
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REFERENCES:

INTRODUCTION:
Primary hyperparathyroidism is a generalized disorder of calcium, phosphate, and bone metabolism due to increased secretion of PTH. Patients may present with multiple signs and symptoms, including recurrent nephrolithiasis, peptic ulcers, mental changes, and, less frequently, extensive bone resorption. However, with greater awareness of the disease and wider use of multiphasic screening tests, including measurements of blood calcium, the diagnosis is frequently made in patients who have no symptoms and minimal, if any, signs of the disease other than hypercalcemia. The manifestations may be subtle, and the disease may have a benign course for many years or a lifetime. This milder form of the disease is usually termed asymptomatic HPT. Rarely, hyperparathyroidism develops or worsens abruptly and causes severe complications such as marked dehydration and coma, so-called hypercalcemic parathyroid crisis.

The annual incidence of the disease is calculated to be as high as 0.2% in patients >60.

SIGN & SYMPTOMS:
One-half or more of patients with hyperparathyroidism are asymptomatic. In series in which patients are followed without operation, as many as 80% are classified as without symptoms. Manifestations of hyperparathyroidism involve primarily the kidneys and the skeletal system. The distinctive bone manifestation of hyperparathyroidism is osteitis fibrosa cystica, which occurred in 10–25% of patients in series reported 50 years ago. Histologically, the pathognomonic features are an increase in the giant multinucleated osteoclasts in scalloped areas on the surface of the bone (Howship’s lacunae) and a replacement of the normal cellular and marrow elements by fibrous tissue.

CASE HISTORY:
A 28 yr old female came to a primary Health Centre in Chennai Corporation with history of back pain for 2 years, which progressively increased for the past 2 months so that patient finds very much difficult even to walk. She gave history of trauma 2 yrs back so she was advised to take an MRI LS with whole spine screening which showed diffuse osteopenia with patchy areas of multiple lytic foci in bilateral ilium, sacrum and right pubic ramus with soft tissue component suggestive of multiple myeloma / marrow infiltrative disorder. Being a lytic lesion with a soft tissue component, more was thought in favour of multiple myeloma.

Patient was referred to a tertiary health centre, where a haematologist opinion was sought. Multiple myeloma though unusual in this age group has to be ruled out. So bone marrow aspiration cytology and biopsy was done.
All necessary investigations including electrolytes were done and except for serum alkaline phosphatase (1255) all were within normal range including serum calcium and phosphorus. Bone marrow cytology showed few normocellular particles showing trilineage haematopoiesis and many osteoclasts. Biopsy report came in a week which gave the final diagnosis- Metabolic bone disease. Then finally parathyroid hormone level was found to be 1758mg/L (normal: 10-60mg/L). Provisional diagnosis of Primary Hyperparathyroidism was made. Endocrinologist opinion was sought, he advised technetium imaging of the gland and it was found to be a adenoma of inferior parathyroid gland. Patient was followed up and she underwent surgical removal of inferior parathyroid. Intra-operatively the gland was found to be ten times bigger of the original size. Post operatively patient was supplemented with calcium and discharged.

**DISCUSSION:**

Hyperparathyroidism is over activity of parathyroid gland resulting in excess production of PTH. Parathyroid tumors are most often encountered as isolated adenomas without other endocrinopathy. They may also arise in hereditary syndromes such as MEN syndromes. Parathyroid tumors may also arise as secondary to underlying disease (excessive stimulation in secondary hyperparathyroidism, especially chronic renal failure), or after other forms of excessive stimulation such as lithium therapy. A single abnormal gland is the cause in 80% of patients; the abnormality in the gland is usually a benign neoplasm or adenoma and rarely a parathyroid carcinoma. Adenomas are most often located in the inferior parathyroid gland.

Multiple lytic lesion with soft tissue component, severe bony pain, was initially more in favour of myeloma. Hyperparathyroidism was more common in females > 50 yrs. PTH mainly acts on bones, kidneys and intestine to regulate serum calcium, phosphate and vitamin D synthesis. In primary hyperparathyroidism 50% have no symptoms and many have nonspecific symptoms. Though hyperparathyroidism was rare in this age group, can present with severe bony pain and multiple lytic lesions with normal serum calcium level. Being asymptomatic in most of the patients, hyperparathyroidism should never be missed.

**CONCLUSION:**

More than 50% of the individuals with Primary hyperparathyroidism have no symptoms or nonspecific symptoms. Multiple lytic lesions even with normal serum calcium, Primary hyperparathyroidism should never be missed.

**No conflict of interest**

**REFERENCES :**

1,2 18th edition of Harrison’s Principles of Internal Medicine.
4,5 Harrison’s Principles of Internal Medicine 18th edition.
## Answers to The Grid

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<th>aortic regurgitation</th>
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<th>tapping apex beat</th>
<th>pansystolic murmur</th>
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<th>Plunging ranula</th>
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