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# JOURNAL OF BANGLADESH COLLEGE OF PHYSICIANS AND SURGEONS



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## CONTENTS

EDITORIAL

# Blinding Malnutrition

In recent years, vitamin A deficiency in children is considered as one of the major public health problems in developing countries, including Bangladesh. The important observation about the common association of vitamin A deficiency with protein energy malnutrition stresses that the deficiency occurs mainly in the context of overall malnutrition and very rarely as a pure deficiency[1]. Hence the term blinding malnutrition in preference to previous xerophthalmia. Since loss of vision in vitamin A deficiency is largely secondary to corneal destruction, the term blinding corneal malnutrition is more appropriate. The fact does remain, however, that deficiency of vitamin A is the single most important cause of preventable blindness of nutritional origin.

The global report of the World Health Organisation revealed in the early 1970's that the annual incidence of xerophthalmic blindness throughout the world was 100,000. As many as five million Asian children may develop xerophthalmia every year of whom about 10 per cent may have severe involvement of the cornea with the potential risk of blindness and mortality[2]. Every 13 minutes, somewhere in India, a child under the age of six years is going partially blind, and in the same period another child is loosig his/her sight[3]. In Bangladesh, 30,000 children of 1-6 years of age become blind every year and almost 100 every day from xerophthalmia [4,5]. At least 16% of all deaths in children aged from 1-6 years in the developing countries are directly associated with at least mild form of xerophthalmia[6]. Rate for loss of sight due to malnutrition in Bangladesh is among the highest in the world[7]. A recent survey conducted here showed that 900,000 children under the age of six years suffer from some form of eye disease due to vitamin A deficiencey each year, the prevalence of bilateral blindness in early childhood is six per 10,000 and the annual incidence of corneal lesions, including keratomalacia, is at least six per 1,000[5]. Another local study revealed that 3.6% of children showed signs of vitamin A deficiency in an urban nutrition unit and 24.5% of them had signs of corneal involvement[8].

The next milestone in our understanding was the realization that blinding malnutrition often leads to death. Several reports from Indonesia have quoted fatality rates of up to 35 per cent. More recently it has been reported from Hyderabad, India that 30 per cent of children with keratomalacia had died within 3-4 months after discharge from hospital.[9] Generally speaking, 25 per cent of the survivors of keratomalacia remain totally blind, between 50-60 per cent become partially blind and only 15-20 per cent escape with unimpaired vision[10]. More recent works in Indonesia[6] indicate a very high risk of death in children suffering from even the milder forms of vitamim A deficiency. The mortality rates in children with night blindness and /or Bitot's spot was four times that in children without xerophthalmia. The morbidity from respiratory infection and diarrhoea were found to be increased two and three times respectively in xerophthalmic children than in the children with normal eyes (vide supra).

Since 1972 Bangladesh has a countrywide intervention programme in operation using six monthly massive dosing with oral vitamin A, 200,000 IU and successfully reached almost half of the rural target population of children aged 0-6 years[11].

Vitamin A deficiency lesions damaging the eye are medical emergencies and it should be treated with appropriate doses of oral vitamin A (VAC-HP). Prevention programmes should not

be limited at mass distribution of vitamin A, but must also aim at 'healthy eyes in a healthy child' as their target. At one time China had the highest incidence of xerophthalmia in the whole of Asia. But now the condition is rare and this was achieved without any specific programme. As child health and nutrition have improved, so has blinding malnutrition receded. So the debate regarding single intervention (Viz. massive dose vitamin A prophylaxis) and total care must tilt in favour of total care within which regular massive dose of vitamin A is provided. All malnourished children brought for care should have their eyes examined. Children with severe diarrhoea as well as measles should receive vitamin A supplementation, provided there is no immediate dosing history. It is evident that 70% of all vitamin A is derived from breast milk even in children of 18-30 months of age in Bangladesh,[12] so breast feeding must be encouraged in prevention of blinding malnutrition. Kitchen-gardening programme would be helpful in growing dark green leafy vegetables (DGLV) and fruits. It has been observed that 30 gm of cooked DGLV per day is enough to protect a pre-school child against deficiency of vitamin A. Animal source of vitamin A is quite expensive. Measle immunization, however, can also decrease the incidence of blindness to a great extent.

Finally, it is only through on-going contacts that it is possible to create awareness and to mobilise the community to get rid of a condition which is as highly preventable as it is dreadful in outcome.[13]

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ORIGINAL ARTICLES

# Peptic Ulcer Perforation and Ramadan —Some Observations

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**Summary:**

**A controversy regarding the impact of ramadan fasting on the frequency of peptic ulcer perforation exists. This study was designed to determine the variation in the incidence of peptic ulcer perforation during the month of Ramadan and to find out the contribution of ramadan fasting to this variation.**

**A retrospective study of thirty months revealed an apparent increase of the condition in Ramadan and also a seasonal increase during October and May. A prospective study of 97 cases of peptic ulcer perforation showed that about half were fasting. Exact mode and extent of influence could not be established. The two groups were similar in age distribution and smoking habit. Although most of the patients in both groups had history of peptic ulcer, a significant proportion of patients with perforation in the fasting group had no previous history of peptic ulcer.**

*(J Bangladesh Coll Phys Surg 1993; 11:71-77 )*

## Introduction:

Peptic ulcer disease is common in Bangladesh[1,2]. The prevalence for duodenal ulcer was found to be 11.9% and gastric ulcer 3.58% in a survey by Khan et al[2]. Perforation of peptic ulcer is also frequently encountered[1,3,4]. Hossain[3] reported an incidence of 13.4% of all surgical emergencies excluding accidents. A great majority (80%) of our population are muslims. A large proportion of adult population fast from dawn to dusk during the month of Ramadan consecutively for thirty days. This period is about 14 hours daily during which they abstain from all types of meals and drinks. There is a clinical impression that the incidence of peptic ulcer perforation increases during the month of Ramadan[4]. A higher incidence was reported by Hussain[5], Sarkar[6] and Tovey[1]. Islam[4] cited a report by Vach[7] in 1966 of increased frequency of peptic ulcer perforation in Tanzanian populaton. Muazzam and others[8,9,10] had different experience with fasting volunteers.

This survey was undertaken to find out whether the number of peptic ulcer perforation vary during the month of Ramadan and to see the effect of fasting, if there is any. A retrospective study of the admitted cases in surgical units of Dhaka Medical College Hospital was done over a period of two and a half years. A prospective study was also done to find out the contribution of ramadan fasting among the patients admitted with peptic ulcer perforation during Ramadan. It was expected that the finding of correct incidence of peptic ulcer perforation will help formulation of preventive strategies.

## Materials and Method:

This survey was conducted in two stages. The first was a retrospective study carried out in all the surgical units of Dhaka Medical College Hospital. Since this hospital has the largest facility for dealing with emergencies in the city, most patients with peptic ulcer performation from the city and its surroundings come to this hospital. Case records of all patients admitted with peptic ulcer perforation were collected and examined. Only those cases in which perforation was found in duodenum or stomach at operation and no history of ingestion of ulcerogenic drugs

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were found, were included in this survey. Emergency admission register of the same period was also scrutinized. This survey extended over thirty months from January 1986 through June 1988 which included three Ramadan months. Monthwise breakdown of the number of cases operated for peptic ulcer perforation was done to find out the monthly frequency. Number for each month was adjusted for thirty days.

Since from hospital records it was not possible to find out the status of the patients, a supplementary prospective study was designed. A questionnaire was prepared which included questions about fasting status of the patients, previous history of peptic ulcer disease, smoking habits and other relevant risk factors. This questionaire was sent to all surgical consultants of all medical college hospitals and district hospitals. All patients who were admitted and operated for peptic ulcer perforation during the month of Ramadan in 1989 were included. Patients of this second stage study were divided into two groups, fasting and non-fasting, and the two groups were compared for different risk factors. Normal deviate (Z) test and Chi-square tests were applied for statistical analysis.

**Results:**

In the retrospective study there were 1182 admissions with gastrointestinal perforation during the thirty months period from January 1986 through June 1988. On exploration 833 patients had peptic ulcer perforation either in the stomach or duodenum. Table -I gives an overview of the findings.

Monthly breakdown of 833 peptic ulcer perforation cases is presented in Table—II.

Number of perforation patients admitted in the month of Ramadan during the study period is shown in Table—III. Mean admission appears higher than mean admission during one calendar month.

A graphical representation of these findings is shown in Fig-1. It appears that there is a rise

**Table —I**

*Showing Distribution of Perforation*

| | | | |
|---|---|---|---|
| Total Admissions for G.I. perforation | | | 1182 |
| Not Operated | | | 150 |
| I. | Expired before operation | | 55 |
| 2. | Conservative | | |
| | Refused | | 95 |
| | Absconded | | |
| Operated | | | 1032 |
| a. | Peptic Ulcer | 835 | |
| | Duodenal | 785 | |
| | Stomach | 48 | |
| | Anastomotic | 01 | |
| | Meckel's | 01 | |
| b. | Enteric | 168 | |
| c. | Traumatic (late) | 14 | |
| d. | Others | 15 | |
| | Tuberculosis | | |
| | Malignancy etc. | | |

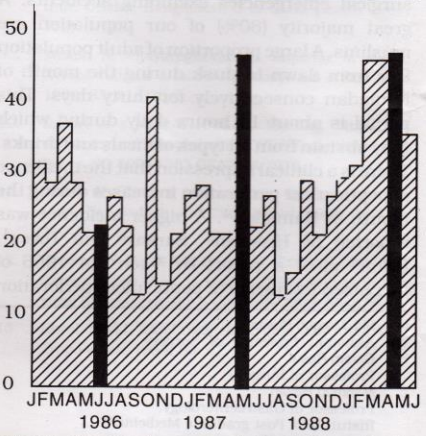


**Fig-1:** *Graphical representation of monthwise distribution of peptic ulcer perforation cases over three consecutive years (solid bars representing Ramadan month)*

**Table—II**

*Showing monthly breakdown of peptic ulcer perforation*

| Month | Actual no. of cases | Adjusted no. for 30 days. |
|---|---|---|
| January 1986 | 32 | 31 |
| February | 27 | 29 |
| March | 37 | 36 |
| April | 29 | 29 |
| May | 22 | 21 |
| June | 22 | 22 |
| July | 26 | 25 |
| August | 23 | 22 |
| September | 13 | 13 |
| October | 37 | 36 |
| November | 15 | 15 |
| December | 23 | 22 |
| January 1987 | 27 | 26 |
| February | 25 | 27 |
| March | 23 | 22 |
| April | 23 | 23 |
| May | 44 | 42 |
| June | 23 | 23 |
| July | 26 | 25 |
| August | 13 | 13 |
| September | 17 | 17 |
| October | 30 | 29 |
| November | 21 | 21 |
| December | 26 | 25 |
| January 1988 | 29 | 28 |
| February | 27 | 29 |
| March | 44 | 42 |
| April | 42 | 42 |
| May | 40 | 39 |
| June | 30 | 30 |

**Table-III**

*Showing incidence of perforation during Ramadan*

| Month | Actual no. of patients | Adjusted for 30 days |
|---|---|---|
| Ramadan 1986* (11 May -3 June) | 22 | 23 |
| Ramadan 1987 (30 Apr. -28 May) | 44 | 45 |
| Ramadan 1988 (18 Apr. -17 May) | 43 | 43 |
| Mean for Ramadan month | 37 | |
| Mean for calendar month | 26.86 | |

* Interrupted for four week long doctors' strike

in the number of peptic ulcer perforation during the month of Ramadan in 1987 and 1988 (corresponding to 30th April to 28th May and 18th April to 17th May respectively). Due to an unusual situation arising out of a month long strike in hospital in 1986 which covered most part of Ramadan in 1986 (corresponding to 11th May to 9th June) admissions were much less and the exact position could not be ascertained. There is also a rise in peptic ulcer perforation during October of 1986 and 1987. However, careful scrutiny of the admission pattern reveals that Ramadan covered the whole of May in 1987 and first half in 1988. But, interestingly, there was no drop in the number of cases in May 1988. This raises the possibility of a seasonal increase in May. Contribution of Ramadan and a seasonal factor effective during May, to the apperent concomitant rise was not clear from this survey.

Second prospective survey was done during the month of Ramadan in 1989. This study was designed to find out the proportion of fasting

and non-fasting cases among the patients admitted and operated for peptic ulcer perforation. Data was also collected about other risk factors in both groups.

*Age Distribution:* This study included 93 patients of which 51 were fasting and 42 were not. The age distribution of these patients is shown in Table-IV. There seems to be no difference in age distribution between the two groups of patients. Majority of patients in both groups were within 20-49 years. Mean age were comparable.

**Table-IV**

*Age distribution of two groups*

| Age group | Fasting n=51 | Non-fasting n=42 |
|---|---|---|
| Below 20 | 02 | 00 |
| 20-29 | 10 | 16 |
| 30-39 | 10 | 11 |
| 40-49 | 10 | 07 |
| 50-59 | 11 | 03* |
| 60+ | 08 | 06 |
| Mean ± SD | 8.5±3.4 | 7±5.7** |

*Statistically significant

**Statistically not significant

*Smoking :* Smoking habit of both the groups of patients is compared in Table-V. Most of the patients were smokers in both fasting and non-fasting groups and most of them smoked more than ten sticks a day. The distribution of smokers and non-smokers were found similar in two groups.

*Previous history of peptic ulcer:* Majority patients had a history of peptic ulcer disease. Presence of a previous history of peptic ulcer in these patients is shown in Table-VI. Ten patients in fasting group out of 51 and one out 42 in non-fasting group had no previous symptoms of peptic ulcer disease. Proportion of patients having perforation without any history of peptic ulcer was significantly higher in fasting group. Rest of the patients that is 41 in each group had peptic ulcer disease of varying duration. There seemed to be no difference in distribution pattern of previous illness between the patients of two groups.

**Table-V**

*Comparison of smoking habit among fasting and non-fasting patients*

| No. of sticks per day | Fasting n=51 | Non-fasting n=42 |
|---|---|---|
| Nil | 07 | 06 |
| 0-10 | 10 | 06 |
| 10+ | 34 | 30 |

**Table-VI**

*Comparison of previous illness between two groups*

| Past H/O of Peptic Ulcer | Fasting N=51 | Non-fasting n=42 |
|---|---|---|
| Nil | 10 | 01* |
| 0-2years | 13 | 11 |
| 2-5years | 14 | 24 |
| 5-10years | 08 | 04 |
| 10 years | 06 | 06 |

*Statistically significant (p <.01)
H/O= History of

*Previous complications:* Presence of a previous history of complication like haematemesis and malaena is compared in Table-VII. Forty eight patients among 51 in the fasting group and 27 out of 42 in non-fasting group had no previous history of gestrointestinal

(GI) bleeding. The proportion of patients having perforation in uncomplicated cases was significantly higher in fasting group.

**Table—VII**

*Comparison of previous complication in patients of perforation of fasting and non-fasting groups*

| Prev. Comp | Fasting n=51 | Non-fasting n=42 |
|---|---|---|
| None | 48 | 27* |
| Malaena | 03 | 14 |
| Haematemesis | 00 | 01 |

*Statistically significant (P<. 01)

**Discussion:**

This survey showed an increase in the number of peptic ulcer perforation during the month of May 1987 and '88, October '86 and '87 and during Ramadan in 1987 and 1988. However, the study period was not long enough to make any firm comment about the situation.

Increased incidence in May '87 overlapped Ramadan. But May '88 did not completely coincided with Ramadan and showed a persistant rise of incidence. This raised the possibility of a seasonal variation in summer. In earlier studies, a seasonal variation in the incidence of peptic ulcer was reported by Ivy[11] and Ahmed et al[12]. They found increased ulcer deaths in Autumn and Spring, while US data from 1970 to '80 showed higher death rates from peptic ulcer in Summer[13]. There are reports by other workers indicating a seasonal influence on the incidence of peptic ulcer[13]. A seasonal variation in our country is therefore not unexpected.

The rise in October corresponds to the preharvesting season. During this period the poor and labour class people remain jobless and face hardship and dirth of food. This may be a part of different factors working in combination.

Contribution of fasting in the apparent increase in the incidence of peptic ulcer perforation remains unconfirmed. This finding of higher incidence is consistent with the reports of Hussain[5], Sarkar[6] and also the Tanzanian experience quoted by Islam[4]. An increased incidence was reported by Tovey[1] based on the findings of Mirzapore Kumudini Hospital at Tangail.

However, observations of Muazzam and others[8,9,10,14,16] were different. In their study[8] with fasting volunteers, gastric acidity was found to remain within normal limit in normal and even in hyperchlorohydric individuals during Ramadan. In other experimental studies[9,14] on different basic physiological parameters like blood pressure, B.M.R., blood sugar, serum electrolytes and liver function tests, no appreciable change was found.

Cleave[15] (quoted by Muazzam[16]) believed "Fasting does not produce any organic disease" after his observations with prisoners in German and Japaneese camps in World War II. There was no rise in the incidence of peptic ulcer in those prisoners who had suffered from severe starvation. Physiologically also, gastric acidity remains lowest in the morning before breakfast. Moreover, prevalence of peptic ulcer is more in some non-muslim regions of the world[1].

The cause or specific precipitating factors that may lead to peptic ulceration and perforation during Ramadan is not known. The cycle of food intake changes abruptly during Ramadan. Major meals are taken in the evening and late night instead of three meals in the morning, noon and evening. It may also be mentioned that, during the study period days were much longer, hot and humid leading to fasting for long 14 hours. Irregularities of dietery habits should also be taken into consideration. There are

people who are not disciplined in terms of timing, types and amount of meals due to social, economic or personal reasons. Even some continue to keep fasting inspite of their physical inability, though there is clear injunctions and exemptions from fasting in religion.

Hence, factors other than fasting alone may be involved in causation and perforation of peptic ulcer in vulnerable group of fasting subjects. Multifactorial mechanism working through diminishing mucosal resistance may be a possible factor. Some of these factors have been studied during the second survey.

In the second survey, more than half of the patients admitted and operated for peptic ulcer perforaton were fasting. Age distribution was found similar in two groups. Significantly higher proportion of patients in both the groups were smokers. Smoking therefore increases the risk equally in both fasting and non-fasting subjects. Earlier investigators found smoking to be associated with increased incidence of peptic ulceration, delayed healing of ulcers and an increased death rate. It is directly related to the number of cigarettes smoked per day[13].

Although in both group, patients who had previous history of peptic ulcer were more in number, absence of peptic ulcer disease was significantly more in fasting subjects as compared to non-fasting individuals. This presents difficulties in identifying a group of people who are either asymptomatic or do not have peptic ulcer, but are at risk of developing perforations. Those who give a history of peptic ulcer disease and have been diagnosed so, may be treated appropriately before and during Ramadan. They may be warned and kept under observation if they want to keep on fasting and be advised to come for proper investigation if they get back their symptoms. We have found a relatively higher proportion of patients in the fasting as compared to non-fasting group who did not have any previous complication like G I bleeding. One third of the patients in non-fasting group had history of either haematemesis or malaena. A history of GI bleeding may indicate a vulnarable group of patients who have more likelyhood of developing perforation subsequently. This aspect need further study.

To conclude it may be said that there is possibly a seasonal variation in the incidence of peptic ulcer perforation. An apparent increase in the incidence was recorded during the month of Ramadan. Contribution of Ramadan fasting could not be confirmed due to overlapping with a possible seasonal rise during the month of May.

Smokers and those with a previous history of peptic ulcer and GI bleeding have more likelyhood of developing perforation.

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# A Study of Institutionalized Prostitutes of Tanbazar, Naryanganj and Floating Gay Girls of Dhaka City

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**Summary:**

**A survey was carried out amongst 523 institutionalized prostitutes of Tanbazar, Naryanganj and 380 floating gay girls of Dhaka city to study characteristics of their professional activities and the addiction to different drugs, and to detect the presence of markers of treponemal and HIV infection amongst them. Overwhelming majority of them (95%) are within 15 to 34 years of age. About 50 percent of them (312/523 and 188/380) entertained 25 to 50 clients a week and more than 10 per cent (103/903) had contact with foreign nationals. Twenty to 30 percent (111/523 and 127/380) had history of drug abuse, though none of them had taken drugs intravenously. Alcohol intake was common during entertainment of clients, but less than three percent (27/903) drank regularly. None of the girls persuaded their clients to use condoms. Thirty nine percent (204/523) of the Tanbazar prostitutes and 54.21 percent (206/380) of the floating gay girls were VDRL positive. None of the 903 subjects were found positive for anti-HIV.**

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## Introduction:

It is virtually impossible to find a society where prostitution does not exist. Though it is illegal in Bangladesh, prostitution does exist in the urban areas. The river port city of Naryanganj, situated about 20 km from Dhaka, has the largest concentration of established prostitutes in a red-light area called Tanbazar. In Dhaka city, a major portion of the trade is carried out by the floating gay girls or street walkers. These girls operate in public places such as parks, cinema houses, restaurants, railway and river terminals or are taken to a residence as per the client's choice.

The advent of AIDS with its propensity of spread through sexual route, has added new significance to the supervision and control of prostitution. Social, cultural, and religious norms and practices may prevent the wide dissemination of HIV in our society, but prostitution will definitely play a key role in its spread. This study was conducted to reveal the characteristics of these two groups of prostitutes and to detect the presence of markers of treponemal infection and HIV antibody amongst them.

## Materials and Method:

This study was a purposive sampling survey carried out between December 1988 and September 1989, by four young doctors who had been specially trained to carry out a Knowledge, Attitude, Behaviour and Practice (KABP) survey on AIDS. The institutionalized prostitutes were interviewed at their quarters. Structured interview sheets were filled up while the blood samples were collected from the prostitutes. The floating gay girls were contacted at different 'Vagrant Homes', set up by the government for their rehabilitation. The VDRL test (Welcome VDRL antigen) was employed to detect treponemal infection and ELISA technique (Wellcozyme) for HIV antibodies.

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**Results:**

Five hundred and twenty three institutionalized prostitutes from Tanbazar, Naryanganj and three hundred and eighty floating gay girls of Dhaka city were included in this study.

Four hundred and eighty (91.78%) prostitutes of Tanbazar and three hundred and fifty three (92.89%) floating gay girls of Dhaka city were within 15 to 34 years of age. The youngest and oldest practicing prostitutes in Tanbazar were 14 and 55 years old, while those amongst the floating gay girls were eight and 44 years respectively. The mean age of the postitutes at Tanbazar was 22.21 years and that at Dhaka was 22.07 years.

More than 50 percent of all these prostitutes (264/523 from Tanbazar, and 221/380 from Dhaka city) had been married on several occasions but all were found to be divorced or separated. Twelve girls from Tanbazar and six from Dhaka city were hindus, the rest were muslims.

Drug abuse appeared to be quite prevalent amongst these girls. 21.22 percent (111/523) from Tanbazar, and 33.42 percent (127/380) from Dhaka city admitted having drug habits. The most commonly used drug was 'ganja' (cannabis/marijuana), and opium was also used. But none of them had ever used drugs intravenously. Alcoholic beverages were invariably available in the brothels, mostly consumed by the clients. Amongst the Tanbazar prostitutes, 60 percent (314/523) reported using alcohol occasionally during entertaining clients, while only three percent (16/523) consumed alcohol regularly. The floating gay girls reported that some of their clients forced them to drink alcohol with them. Thirty five percent admitted drinking occasionally during their professional activities, and only 1.3 percent (5/380) used to drink regularly.

Table-I shows that about half of the prostitutes of both the groups were entertaining 25 to 50 clients each week. 10.32 percent (54/523) prostitutes of Tanbazar and 12.89 percent (49/380) gay girls of Dhaka city had contact with foreign nationals also.

**Table—I**

*Average weekly clients of the prostitutes*

| Clients/ week | Tanbazar (N=523) | Dhaka City (N=380) |
|---|---|---|
| <25 | 193 (36.90%) | 186 (48.95%) |
| 25-50 | 312 (59.66%) | 188 (49.47%) |
| >50 | 18 (3.44%) | 6 (1.58%) |

Regarding the use of condoms, none of the prostitutes from either group induced their clients to use condoms. However, a small number of the clients (2%) used condoms on their own.

VDRL test results revealed that 39 percent (204/523) prostitutes from Tanbazar and 54.21 percent (206/380) from Dhaka city had evidence of treponemal infection. All the 903 samples tested were found to be anti-HIV negative.

**Discussion:**

A survey like this always suffers from the inherent shortcomings of self- reporting about the subject which is seldom openly discussed in our society.

The association of alcohol and illicit drugs with commercial sex is widely prevalent in all societies[1,2]. Wilson et al[3] reported from Zimbabwe that alcohol is an important factor in paid sex transactions. Half of the 100 prostitutes in their study were found to be drunk "always" or "often" with clients; similar proportion also reported that their last client was drunk. Rahman and Arefeen in their study of 120 institutionalized prostitutes in Dhaka and

Naryangonj also reported wide use of alcohol amongst them[4]. Alcohol and indiscriminate sex are restricted in our society. However, since alcohol and sex go hand in hand, the use of alcohol among our prostitutes was not at all an unexpected finding.

It is encouraging to note that intravenous drug abuse was not practiced by any of the prostitutes. This perhaps confirms the generally held idea that Bangladeshis are "needle shy". However, frequent use of drugs by other routes by these groups was considered as an accessory activity to their profession. Hard cash earning and easy availability perhaps encouraged this practice.

The number of clients entertained by sex workers apear to vary considerably. The average daily number of clients in this study was found to be 3.5 to seven in about 50 percent of the prostitutes, and somewhat lower in the rest. Rahman and Arefeen[4] found that the average number of daily clients of both Naryanganj and Dhaka prostitutes varied from one to two. Simoes et al[5] found that 90 percent (92/102) of the 102 institutionalised prostitutes from Tamil Nadu, India had 10.3±3.9 partners per day. In Nairobi the average number of daily clients were 3.7±2.29,[6] in Nigeria, 88 percent prostitutes from Maiduguri had two to four clients per day,[7] while in Calabar the mean number was 4.4 (range two to 10),[8] and in Zimbabwe it was 2.2[3]. The variability of number of clients may reflect the market situation of supply and demand.

It is suspected that in countries of very low prevalence or absence of HIV infection, the virus may be introduced by the locals returing from abroad and by foreign nationals.

Prostitutes may act as the bridge between these people and the local population. Thus contact with local international travellers and foreigners may be a high risk activity for acquisition of HIV infection. In India, Simoes et al[5] found that 20 percent (2/10) of their HIV infected prostitutes had history of contact with forgien nationals while only 1.1 percent (1/91) of the HIV negatives had such contact. Though the number of foreigners in Bangladesh is very few, it was surprising to find that more than 10 percent of the prostitutes in this study had contact with foreign nationals.

Condoms prevent transmission of sexually transmitted diseases (STDs) including AIDS[9]. The Bangladesh Family Planning Programme strongly advocates the use of condoms to prevent pregnancy. During July 1987 to June 1988, the Family Planning Directorate had marketed 160, 360, 445 pieces of condoms in the country for family planning purposes. This study revealed that condom use was almost non-existent amongst prostitutes. This may be due to the fact that Bangladeshis associate use of condoms with prevention of pregnancy and are unaware of it's potential of preventing STDs. Moreover, males think that use of condoms decreases penile sensitivity and are reluctant to use them. Even in Edinburgh, some of the prostitutes reported that many of their clients did not want to use condoms and they were charging more for unprotected sex[10]. The use of condoms amongst prostitutes in the developing countries have varied from 30 to 54 percent [3,6,11,12].

There is now convincing evidence that genital ulceration increases susceptibility to HIV infection,[13] and the prevalence of genital ulceration amongst women patients attending STD clinics have been found to be highest in Bangladesh (29%)[14]. Numerous studies have also shown an association, mostly in males, between HIV and treponema pallidum infection[15]. Presence of antibodies against treponema pallidum may provide an indication of susceptibility to HIV infection. The positive VDRL status found in this study was comparable to that reported from India. Forty eight percent (337/701) of prostitutes in Delhi,[16] and 44.4 percent (8/18) in Madurai,[11] were reported to be VDRL positive.

Prostitutes are an important reservoir of traditional STDs, and their varied sexual exposure to large numbers of different partners put them at significant risk of HIV infection. Thus it was fortunate that no evidence of HIV infection had been found in the prostitutes studied in Dhaka and Naryanganj.

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# Laryngeal Tumours and Radiation Response-A Study of 100 Cases

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**Summary:**

**Laryngeal tumours are quite common in Bangladesh specially in male population[1]. About one in eight of all male cancer cases in Radiotherapy Depaartment of Dhaka Medical College Hospital is a laryngeal tumour (personal observation).**

**A study was done on some clinicopathological paramaters of 100 cases of laryngeal cancers and their short term response to radiation treatment. The subjective and objective response was quite encouraging, although the patients were treated by very old and worn out machines. It is high time that these outdated machines are replaced by modern ones to give even better results.**

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## Introduction:

Carcinoma of larynx is a radiocurable disease[2]. Unfortunately the radiotherapy facilities in Bangladesh are very meager. According to international standards, Bangladesh should have about 110 supervoltage external beam radiation units for the population of 110 million. But the country has only one supervoltage external radiation unit (Cobalt$^{60}$) which is situated in Dhaka Medical College Hospital. Besides this cobalt$^{60}$ machine, there is one gamma-ray machine, caeseum$^{137}$ (.662 Mev) and two deep X-Ray machines (250 Kev) in Dhaka Medical College Hospital, Radiotherapy Department of Dhaka Medical College Hospital is the only Radiotherapy centre in Dhaka city and the biggest in Bangladesh. Most of the cancer patients of Dhaka city and other parts of the country are therefore referred to this centre. So a huge number of patients are treated here.

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In this study, an attempt has been made to observe some clinicopathological aspects of carcinoma of larynx and its radiotherapy response observed six to eight weeks after radiation.

## Materials and Method:

Patients with carcinoma larynx already diagnosed histologically were collected from out patient department of Radiotherapy, Dhaka Medical College Hospital, Dhaka. Their name, age, sex, occupation, address, habit of smoking, duration of smoking, habit of betalnut-tabaco chewing, symptoms and clinical findings (specially on indirect or direct laryngoscopic examination) were noted in data sheets. Previous treatment like surgery, chemotherapy etc. were also noted. Histological reports were carefully recorded in patient's history sheet.

Altogether one hundred patients were included in this study. Radiotherapy was given to these patients by different machines of different energies. Thirty were treated by cobalt$^{60}$ [1.25 Mev], 49 by caesecum$^{137}$ (.662 mev) and 21 by deep X-Ray machines (250 Kev). All these machines are very old and worn out. Radiotherapy was given from two parallel opposed fields in neck with the dose ranging betwen 45 Gy and 60 Gy in 22 to 30 fractions, wedges were not used. One hundred and ninty two Gy was given in each fraction.

The patients were advised for follow-up six to eight weeks after completion of radiation treatment at out patient department (Radiotherapy), Dhaka Medical College Hospital, Dhaka.

The symptoms were noted and clinical examination specially indirect laryngoscopy, investigations like X-Ray chest, routine blood examinations were done and compared with the previous findings as already noted in data sheet. This study was done from 1st January 1991 to 30th September 1992.

**Results:**

The results of treatment of 100 cases of carcinoma of larynx were analysed. Out of these 100 cases, 90 were males and 10 females. (male female ratio 9:1). Peak incidence was between 60 and 69 years and mean age 57.54 years for both sexes. The oldest patient was a male of 85 years and the youngest a male of 23 years. Age groups in both sexes, habits of smoking and betelnut-tobacco chewing, duration of smoking, occupations, clinical findings, histopathological pattern and response to radiotherapy treatment are shown in tables below.

**Table-I**

*Patients with carcinoma of larynx in different age groups in both sexes*

| Age groups | Male | Female |
|---|---|---|
| 20-29 | 1 (1.11%) | 0(0%) |
| 30-39 | 3(3.33%) | 1(10%) |
| 40-49 | 14(15.56%) | 1(10%) |
| 50-59 | 23(25.55%) | 3(30%) |
| 60-69 | 24(26.68%) | 5(50%) |
| 70-79 | 23(25.55%) | 0 |
| 80-89 | 2(2.22%) | |
| Total | 90 | 10 |

**Table-II**

*Patients of carcinoma of larynx having different habits in both sexes*

| Habits | Male | Female | Total |
|---|---|---|---|
| Smoking and betel nut and tobacco chewing | 48(53.33%) | 2 (20%) | 50(50%) |
| Smoking only | 40(44.45%) | 2(20%) | 42(42%) |
| Betelnut and tobacco chewing | 1(1.11%) | 5(50%) | 6(6%) |
| No habit of smoking and betelnut tobacco chewing | 1(11%) | 1(10%) | 2(25) |
| Total | 90 | 10 | 100 |

**Table-III**

*Duration of smoking in both sexes. Eighty eight male out of 90 and four female out of 10 were smokers*

| Duration in years | Male | Female |
|---|---|---|
| 6-10 | 5(5.68%) | 0 |
| 11-15 | 4(4.55%) | 0 |
| 16-20 | 6(6.82%) | 1(25%) |
| 21-25 | 9(10.22%) | 1(25%) |
| 26-30 | 10(11.36%) | 0 |
| 31-35 | 15(17.06%) | 1(25%) |
| 36-40 | 7(7.95%) | 1(25%) |
| 41-45 | 8(9.09%) | 0 |
| 46-50 | 6(6.82%) | 0 |
| 51-55 | 12(13.64%) | 0 |
| 56-60 | 5(5.68%) | 0 |
| 61-65 | 1(1.13%) | 0 |
| Total | 88(100%) | 4(100%) |

**Table-IV**

*Common symptoms of patients of carcinoma larynx*

| Symptoms | Male | Female | Total |
|---|---|---|---|
| Hoarseness of voice | 33(36.67%) | 2(20%) | 35(35%) |
| Hoarseness, Dysphagia | 18(20%) | 3(30%) | 21(21%) |
| Hoarseness, Dyspnoea | 21(23.34%) | 2(20%) | 23(23%) |
| Dysphagia | 7(7.78%) | 2(20%) | 9(9%) |
| Hoarseness, Dysphagia, Cough | 3(3.33%) | 1(10%) | 4(4%) |
| Hoarseness, Cough | 4(4.44%) | 0 | 4(4%) |
| Hoarseness, Dysphagia and Dyspnoea | 2(2.22%) | 0 | 2(2%) |
| Dysphagia, Cough | 2(2.22%) | 0 | 2(2%) |
| Total | 90 | 10 | 100 |

**Table-V**

*Common clinical involvement of patients of carcinoma larynx in both Sexes*

| Site of Lesion | Male | Female | Total |
|---|---|---|---|
| Larynx (supraglottic) and pharynx | 14(15.57%) | 2(20%) | 16(16%) |
| Larynx (supraglottic), Pharynx, Neck node | 20(22.22%) | 2(20%) | 22(22%) |
| Larynx (supraglottic) | 13(14.44%) | 2(20%) | 15(15%) |
| Larynx (supraglottic) and Neck node | 8(8.89%) | 4(40%) | 12(12%) |
| Larynx (glottic) | 25(27.79%) | 0 | 25(25%) |
| Larynx (glottic and supraglottic) | 5(5.59%) | 0 | 5(5%) |
| Larynx (glottic and supraglottic), Nack Node | 3(3.33%) | 0 | 3(3%) |
| Larynx (subglottic) | 2(2.22%) | 0 | 2(2%) |
| Total | 90 | 10 | 100 |

**Table -VI**

*Histopathology of carcinoma larynx*

| A. Squmous cell carcinoma | No. of patient | % |
|---|---|---|
| 1. Grade-I | 43 | 43.44% |
| 2. Grade II | 36 | 36.36% |
| 3. Grade III | 16 | 16.16% |
| 4. Grade IV | 4 | 4.04% |
| | 99 | 100% |
| B. Fibrosarcorma | 1 | 100% |
| | 100 | |

**Table VII**

*Radiotherapy response in carcinoma larynx*

| Site of lesion | No. of pts | Radiotherpy dose | At six to eight weeks after irradiation No of patients | | |
|---|---|---|---|---|---|
| | | | Symptoms | I/L Residual | Neck node |
| Glottic | 25 | 45 Gy to 60 Gy | 3 | 7 | - |
| Supraglottic pharynx and Neck node | 22 | 45 Gy to 60 Gy | 2 | 4 | 9 |
| Supraglottic pharynx | 16 | 45 Gy to 60 Gy | 1 | 1 | - |
| Supraglottic | 15 | 45 Gy to 60 Gy | - | 5 | - |
| Supraglottic, Neck node | 12 | 45 Gy to 60 Gy | 1 | 4 | 1 |
| Supraglottic, Glottic | 5 | 55 Gy | - | - | - |
| Glottic, Supraglottic, Neck Node | 3 | 50 Gy | 1 | 1 | - |
| Subglottic | 2 | 50 Gy to 55 Gy | - | 1 | - |
| Total | 100 | | 8 | 23 | 10 |

Pharyngeal involvement -38 patients
Neck node involvement -37 patients

**Discussion:**

Carcinoma larynx is one of the commonest cancers in Bangladesh[1]. Males predominate females. In the present study male female ratio is 9.1, peak incidence of age is between 60 and 69 years and mean age is 57.45 years in both male and female patients (Table-1). The disease mostly affects the patients in fifth and sixth decades of life but there has been a fall in average age in recent years[3]. Laryngeal carcinoma is a disease of adults but occasionally occurs in persons of less than 20 years[4]. The youngest male patient was 23 years and the female patient 35 years old in this study. It is worth mentioning here that in some cases of this study both larynx and pharynx have been found involved and it is difficult to determine the primary site of origin of these lesions, although for the sake of simplicity those have been categorised as laryngeal cancers.

Cancer of larynx seems to be related primarily to cigarette smoking[5]. In the present study 88 out of 90 male patients were smokers and duraton of their smoking was not less than six years in any case (Table-III). The most common presenting symptom is hoarseness of voice[3]. Thirty five percent of the patients presented with only hoarseness, 21% with hoarseness and dysphagia and 23% with hoarseness and dyspnoea (Table -IV). Thirty eight percent had involvement of pharynx and 37% neck node also. It was found that the cancer was limited only to supraglottic region in 15% of cases and only glottic area in 25 cases and subglottic cancer was seen in only two cases (Table -V).

In the present study, tracheostomy had been done in 24 out of 100 cases. Surgical treatement had been done in two cases. A case of glottic cancer with histology of squamous cell carcinoma grade -III came with recurrence after radical surgery like total laryngectomy with bilateral neck node dissection. Another case of glottic cancer with histopathology of very rare fibrosarcoma presented with recurrence after excision of tumour from the left vocal cord through laryngo-fissure approach. Only one patient came after getting two cycles of chemotherapy with cisplatin and methotrexate and the patient had the involvement of supraglottic larynx and pharynx with neck node matastasis and had a histology of squmous cell carcinoma grade-II.

Out of 100 in the present study, 99 cases had the histopathology of squmous cell carcinoma, of which 43.43% were of grade-I and 36.36% grade-II. A very rare histopathological variety, fibrosarcoma, was found in one case (Table-VI). Vast majority of carcinoma larynx are squmous cell carcinomas, pseudosarcoma, a combination of squmous carcinoma and sarcomatous stroma is occasionally seen[6].

Radiation alone is the treatment of choice for cancers of the true vocal cord with normal or impaired mobility because the tumour is cured with preservation of voice in a large population of patients[7,8]. In the present study out of 25 glottic cancers, 16 were treated by cobalt$^{60}$ (1.25 Mev) and nine by caesium $^{137}$ (.662 Mev). The doses given were between 45 Gy to 60 Gy in 22 to 30 fractions, that is 192 to 205 Gy in each fraction. Six to eight weeks after irradiation, three patients out of 25 came with symptoms and seven had residual growth.

Radiation alone is the treatment of choice for the surface lesion and small cancer of supraglottic larynx that does not extend to infiltrate the preepiglottic space or fixate the hemilarynx[9]. Exophytic lesions of the marginal supraglottic and glosso-epiglottic regions are frequently very responsive to radiation and are radiocurable[10,11]. The increased tumour control with increasing doses noted for small and intermediate lesions provide a rationale for delivering the maxium dose in the therapeutic range from 50 to 70 Gy[12,13].

In the present study 15 patients presented with laryngeal cancer which was limited to

supraglottic regions only. Two out of 15 were treated by cobalt $^{60}$ with 60 gy in 30 fractions, that is 200 cGy in each fraction. All the patients came at six to eight weeks after radiation treatment without symptoms and five patients with residual growth. Other cases of supraglottic lesions with extension of growth to pharynx were given palliative radiotherapy, where out of 16 cases, one patient came with symptoms and one with residual growth at follow up. Out of 22 cases of supraglottic larynx, pharynx and neck node involvement, two came with symptoms and four with residual growth and nine patients with residual neck node lesion after palliative radiotherapy.

Isolated cancers of the subglottic region are seldom seen[10]. Cancer of the true vocal cord that spread downward to imvolve the subglottic area are more common[14]. Early lesions that do not fix the vocal cord can be cured by irradiation but more advanced lesions require laryngectomy and high dose of adjuvant irradiation to parastomal recurrence[10]. In the present study we had two cases of subglottic cancers. One was treated by 55 Gy in 28 fractions (197 cGy in each fraction) and after irradiation at follow up came with no symptoms and no residual growth. Another case treated by 50 Gy in 26 fractions (193 cGy in each fraction) came with residual growth but no symptoms.

The patients of carcinoma of larynx presented mostly in advanced age and advanced stage. Response to radiotherapy of these patients by very old cobalt$^{60}$, caesium$^{137}$ and deep X-Ray machines of Dhaka Medical College Hospital, are more or less satisfactory. If the patients come at earlier stages and get high energy radiotherapy by cobalt$^{60}$ or linear accelerator with proper arrangements , they are likely to be cured. It is necessary to increase the number of Radiotherapy centres with modern high energy machines according to World Health Organizations recommendation i.e. one supervoltage machine per million population.

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# A Clinical Study on the Indications and Outcome of Induction of Labour

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**Summary:**

Randomly selected 50 women with singleton pregnancy in cephalic presentation in whom labour was induced with amniotomy and intravenous oxytocin were included in the study. Prolonged pregnancy and hypertensive disorders were the major (46%) indications for the procedure. Primigravida needed a longer (7.55 hours, mean) induction delivery time than multigravida (5.6 hours, mean). Seventy eight percent of the patients delivered vaginally of which 10% needed assistance by forceps or ventous. Only six percent had post-partum haemorrhage. Uterine inertia (10%) was found to be the commonest cause of intervention by caesarean section. The patients with favorable cervical scores (≤ 6) had increased chances of vaginal delivery. No patient in this study experienced uterine hypertonicity and there was no case of cord prolapse. There was no perinatal death either.

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## Introduction:

Induction of labour means artificial termination of pregnancy at any time after 28 weeks of gestation to initiate the process of labour in an attempt to secure vaginal delivery[1].

In some pregnancies there comes a time when for the safety of foetus and/or the mother the pregnancy needs termination. When sound obstetric grounds exist, every effort should be made to ensure effective labour as soon as possible in order to reduce the morbidity and mortality of both mother and foetus.[2]

Prolonged pregnancy and hypertensive disorders of pregnancy are two major indications and account for more than 40% of the inductions. There are many other disorders where labour needs to be induced but the decision requires experience and judgement. In all cases, consideration must be given to two opposing sets of variables- the risk of maternal and/ or foetal morbidity or mortality if pregnancy continues against the risk of prematurity and possible complications of induction if the pregnancy is terminated.

Before the introduction of prostaglandins, most obstetricians contemplating induction of labour would have agreed that for safety and reliability the method of choice was amniotomy and intravenous oxytocin titration[3]. Still today, some obstetricians believe that for routine induction of labour intravenous oxytocin and amniotomy is the method of choice, efficacy and safety of which are well known[4]. Prostaglandins are other alternatives for the induction of labour having great potential in patients with unfavourable cervix who would otherwise have prolonged induction ending in failure and inevitable caesarean section[5].

Induction of labour should not be attempted unless there are sound obstetric grounds for expediting the termination of pregnancy as unfortunately no method of inducing labour has yet been devised which is without risk to the mother (e.g. failure of induction, incoordinated uterine action, postpartum haemorrhage, accidental haemorrhage, amniotic fluid embolism etc.) and the foetus (e.g. prematurity,

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asphyxia, cord prolapse, neonatal hyperbilirubinaemia etc.) and certain to be successful within a reasonable time period[6].

The success of induction depends, to a large extent, on the condition of the cervix and gestational period. As the patient approaches nearer to natural labour, it is more likely to be successful. An idea of likelihood of the induction can be gained from the Bishop's score[7].

**Table—I**

*Bishop's cervical scoring system*

| Factors | score | | | |
|---|---|---|---|---|
| | 0 | 1 | 2 | 3 |
| Dilatation in cm | 0 | 1-2 | 3-4 | 5-6 |
| Effacement (%) | 0-40 | 40-60 | 60-80 | 80+ |
| Station | -3 | -2 | -1 | +1,+2 |
| Consistency | firm | medium | soft | |
| Position | posterior | mid | anterior | |

Total Score=

From the table it is apparent that the maximum possible score would be 13, at which point delivery would be just imminent.

There is no role of watchful expectancy in induction of labour. Each case should be actively managed and the best way to follow the dynamic process of labour is with a PARTOGRAPH[8].

Induction of labour is an integral part of modern obstetric practice. The standard method employed in Bangladesh has been amniotomy and intravenous oxytocin and the management is solely clinical. This study has been conducted to evaluate the cases in terms of indications of induction of labour and to analyse the outcome.

**Materials and Method:**

The study was conducted on 50 randomly selected cases admitted and treated in the Department of Gynaecology and Obstetrics, Institute of Postgraduate Medicine and Research (IPGMR) over a period of 16 months (between September '88 and December '89). All the patients had a common criterion of singleton pregnancy and cephalic presentation.

Cases were selected where induction was to be done to ensure a successful vaginal delivery. Only patients with cervical scores five or more were included in the study.

After describing the procedure, the patients were prepared and induction was started in most of the cases, early in the morning. The oxytocin infusion was started either prior to or following rupture of the membranes depending mainly upon the state of the cervix and the head-brim relationship. When the head was non-engaged, oxytocin infusion was followed by artificial rupture of the membranes (after the presenting part was being fixed).

The oxytocin used for this study was synthetic oxytocin named "Syntocinon" marketed by Sandoz containing 5 i.u. in each ampoule (1 ml=5 i.u.)

The initial dilution was 5 i.u. of oxytocin in 500 ml of 5% dextrose in aqua and the drip was started at the rate of 10 drops/ minute and the rate was increased by five drops every half an hour until there was effective uterine contraction provided the foetal heart rate was within normal limits. In most of the cases, patients responded by the time they were receiving 25-30 drops/ minute; in some cases, infusion had to be increased upto 40 drops/ minute. The concentration of oxytocin in different infusion rate is shown in table II.

**Table—II**

*Calculation of the dose of oxytocin*

Concentration =5 i.u. in 500 ml of fluid

| Drops/ minute | Dose (mU/mimute) |
|---|---|
| 10 | 6.66 |
| 15 | 10 |
| 20 | 13.33 |
| 25 | 16.66 |
| 30 | 20 |
| 35 | 23.33 |
| 40 | 26.66 |

All the cases were monitored by closed and careful clinical observation and a partograph was maintained in each case to ensure the correct discipline of supervision.

**Results:**

The results of this study are shown in the following tables:

**Table —III**

*Details of patients at induction*

| | |
|---|---|
| Number of patients | 50 |
| Primigravida | 20(40%) |
| Multigravida | 30(60%) |
| Age (Years) | |
| Mean | 26.5 |
| Range | 17-38 |
| Cervical score | |
| Mean | 6.22 |
| Range | 5-9 |

**Table—IV**

*Indications for induction of labour*

| Indication | Number | Percentage |
|---|---|---|
| Prolonged pregnancy | 14 | 28 |
| Hypertensive disorders | 9 | 18 |
| Premature rupture of the membranes | 8 | 16 |
| Diabetes mellitus | 7 | 14 |
| Intrauterine foetal death | 5 | 10 |
| Rh negative with titre | 5 | 10 |
| Placenta praevia (marginal) | 1 | 2 |
| Foetal abnormality | 1 | 2 |
| Total | 50 | 100 |

**Table—V**

*Details of maternal outcome*

**A. Induction-delivery interval (in hours)**

| Primigravida | | Multigravida | |
|---|---|---|---|
| Mean | Range | Mean | Range |
| 7.55 | 3-12 | 5.6 | 15-12 |

**B. Mode of delivery**

| Delivery | Number | | Total | Percentage |
|---|---|---|---|---|
| | Primigravida | Multigravida | | |
| Spontaneous vertex | 11 | 23 | 34 | 68 |
| Forceps | 2 | 2 | 4 | 8 |
| Ventous | 1 | 0 | 1 | 2 |
| Caesarean section | 6 | 5 | 11 | 22 |

**C. Mean blood loss at delivery (excluding caesarean section)**

| | Number | Percentage |
|---|---|---|
| > 500ml | 3 | 6 |

**Table—VI**

*Delivery by caesarean section*

| Indications | Number | Percentage* |
|---|---|---|
| Uterine inertia | 5 | 10 |
| Foetal distress | 3 | 6 |
| Cervical dystocia | 2 | 4 |
| Failed forceps | 1 | 2 |
| Total | 11 | 22 |

* Percentage of total cases

**Table —VII**

*Relation of cervical score*

**A. With parity**

| | Number with percentage | | | |
|---|---|---|---|---|
| Cervical score | Primigravida | Multigravida | Total | Percentage |
| ≤6 | 14(28%) | 25(50%) | 39 | 78 |
| <6 | 6(12% | 5(10%) | 11 | 22 |
| Total | 20 | 30 | 50 | 100 |

**B. With mode of delivery**

| Cervical scores | Number | Vaginal delivery | | Caesarean section | |
|---|---|---|---|---|---|
| | | No | % | No | % |
| ≤6 | 39 | 35 | 70 | 4 | 8 |
| <6 | 11 | 4 | 8 | 7 | 14 |
| Total | 50 | 39 | 78 | 11 | 22 |

**Table—VIII**

*Details of foetal outcome*

| | |
|---|---|
| Apgar scores at 5 minutes | |
| Mean | 9.47 |
| Range | 7-10 |
| Birth weights (kg) | |
| Mean | 2.81 |
| Range | 2-4 |

**Discussion**

A total of 50 patients were studied of which 40% were primigravida, the mean age of the subjects being 26.5 years.

Various indications are shown in table IV, prolonged pregnancy (28%) is at the top of the list and hypertensive disorders of pregnancy is next in order. Premature rupture of the membranes constituted about 16% of the indications in this study, the cause behind it was high risk of infection in this country.

Primigravida required a longer (7.55 hours, mean) induction delivery interval than multigravida (5.6 hours, mean). In this study, caesarean section rate was higher (22%) in comparison to other studies,[9] probably because of early diagnosis of uterine inertia and use of lower concentration of oxytocin. Quantification of uterine activity could not be ascertained; diagnosis of foetal distress also could not be accurately done in absence of foetal scalp pH studies.

No patients in this series experienced uterine hypertonicity and no case of cord prolapse complicating the situation after artificial rupture of membrane (ARM) was found. Western studies also recorded similar findings.[10] Table VII also points to the fact that patients with favourable cervix had increased incidence of vaginal delivery.

The perinatal mortality was nil in this series. Apgar scores of the newborn at one minute varied but at five minutes the scores were equal to or greater than seven. Mean birth weight of the newborn infants was 2.81 kg -only one baby had birth weight of 2kg (the case was induced prematurely for uncontrolled hypertension).

Although the safety and reliability of induction has greatly increased in recent years in advanced countries, we still have to depend mainly on clinical judgement and suffer from severe limitations. Details of the inductions of labour with amniotomy and intravenous oxytocin have been studied in this effort and compared fovourably with the studies of the advanced countries and the method was found to be safe and reliable provided proper case selection and careful observation could be ensured.

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REVIEW ARTICLE

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# Analgesic Nephropathy: A Review

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Almost every day our national dailies publish reports asking for help for some unfortunate patients needing renal transplantation or dialysis. Chronic renal insufficiency has reached a gigantic level of prevalence which now touches regularly onto our daily life. Bangladesh, with her scarce resources, can hardly bear the economic burden of regular dialysis of this large group of patients, neither can she bear the cost of renal transplantation, let aside the economic loss caused by loss of life at a very productive age. There are many important causes of chronic renal insufficiency, some of which are preventable even after their onset. Analgesic nephropathy belongs to this group. This review article is meant to increase our awareness of this preventable renal catastrophe.

**Definition:**

Analgesic nephropathy (AN) is defined as a form of chronic renal disease caused by excessive intake of analgesic combination and characterized morphologically by chronic tubulointerstitial nephritis and renal papillary necrosis (RPN)[1].

**Epidemiology:**

Analgesic nephropathy was first reported in Switzerland in 1953[2], but now it is recognized to have worldwide distribution. It is the most common form of chronic drug-induced renal damage and particularly prevalent in Wetern Europe, Australia, parts of the USA and other countries with high per capita consumption of analgesics[3,4]. Analgesic nephropathy accounts for two to 30% of end-stage renal failure in patients referred for dialysis or transplantation in different countries[4-7]. In Belgium 18% of all dialysis patients, in West Germany 16.8% and in Australia 20-25% of end-stage renal failure patients have analgesic nephropathy[8]. The wide geographical variation in the reported prevalence of AN is due to difference in the pattern of analgesic use[6,9], diagnostic bias[10], lack of organized national data collection system, insensitivity of blood chemistry in detecting the disease, physicians' unawareness about this condition and the unreliability of patients' histories regarding their analgesic consumption[8,11].

**Aetiology:**

*The analgesics involved*: There is a large body of clinical, experimental and epidemiological evidence that long-term use of analgesics leads to analgesic nephropathy, renal papillary necrosis and renal failure[6,10,12-14]. The renal changes were first ascribed to phenacetin, but animal experiments show that most nonsteroidal anti-inflammatory drugs (NSAIDs) individually or in combination can cause AN and RPN and the toxicity is additive. The drugs thus implicated include phenacetin, paracetamol, aspirin, phenylbutazone, phenazine, amidopyrine, indomethacin, mefenamic acid, flufenamic acid, fenoprofen, ketoprofen, ibuprofen, naproxen, sudxicam, etc.[13-16]. The chronic nephrotoxicity of these drugs should be differentiated from their acute toxic effects, such as tubulointerstitial changes, minimal change disease with nephrotic syndrome and acute renal failure[14].

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**Relative Risk:**

The minimum requirement for development of AN seems to be 1 gm phenacetin per day for one to three years or total ingestion of 2 kg phenacetin over a period of three years[1,14,17].

In an 11-year prospective study in Switzerland, Dubach et al[18] have shown that in women with high phenacetin intake, the risk of death due to renal or urogenital cause was about six times greater than in the controls. This holds true even after adjustment for age, cigarette smoking and length of follow-up.

The risk increases with cumulative use. In a multi-centre case control study in the USA, Sandler and Smith[19] showed that in phenacetin users, the relative risk is about three times for persons who had consumed 0.4 to 0.9 kg phenacetin, while the risk is about seven times for those who had consumed at least 2 kg phenacetin.

As a whole, daily users of analgesics have significantly more renal disease than infrequent users[19]. The overall risk is highest with phenacetin (about five times), while paracetamol come to a close second (about three times). Daily use of aspirin alone in therapeutic dose do not seem to confer any increased risk[19].

General consensus is that long-term use of either phenacetin or paracetamol or combination containing them increases the risk of chronic renal insufficiency, while use of aspirin alone is unlikely to do so[8,12,19]. This is quite a reassuring fact considering the emerging indication of long-term use of low-dose aspirin as an anti-platelet agent.

**Pathogenesis:**

The exact biochemical mechanism by which renal papillary necrosis and chronic interstitial nephritis can result from analgesic absorption is not totally clear.

*Role of phenacetin and paracetamol:* Phenacetin undergoes extensive hepatic metabolism to form paracetamol (acetaminophen). This accumulates in the renal medulla during anti-diuresis with an intracellular distribution. There is a renal corticomedullary gradient for paracetamol resulting in papillary tip concentrations ten times higher than those in renal cortex[17]. Paracetamol is conjugated either to a non-toxic metabolite or co-oxidized with arachidonic acid by fatty acid cyclooxygenase and prostaglandin hydroperoxidase in the inner medulla. The second pathway is favoured when high concentration of paracetamol is present, particularly in dehydrated patients. The highly reactive intermediate products of these reaction can bind covalently to cell macromolecule, particularly when glutathione concentration is decreased. This causes cytotoxic cell death[8,12,14].

*Role of aspirin:* During anti-diuresis, aspirin and other salicylates are concentrated in the renal medulla. Aspirin can acetylate components of cell cytoplasm, deplets intracellular glutathione by inhibition or hexose-monophosphate shunt and inhibits prostaglandin synthesis.

The decreased amount of reduced glutathione explains how aspirin enhances the cytotoxic effects of both phenacetin and paracetamol. The reduced blood supply to inner medulla due to salicylate-induced inhibition of vasodilator prostaglandins ($E_2$, $D_2$, $I_2$) also enhances the destructive effects of phenacetin/paracetamol[8,12,14].

Aspirin alone in therapeutic dose does not seem to impair renal function seriously[19]. But in analgesic combination, the destructive effects combine to the deteriment of the patient.

*Role of caffeine:* Many analgesic combinations contain caffeine (including the widely known APC combination). Previously it was thought that caffeine is the stimulant that makes patients addictive to analgesic

combinations[8,14]. But caffeine is an adenosine antagonist. Adenosine reduces cellular transport-associated respiration in the medullary thick ascending limb of loop of Henle in rabbit kidney. So, removal of this endogenous modulator could lead to an imbalance between demand of transport work and the available oxygen supply and its use—thus enhancing hypoxia and cell necrosis[20].

*Other Factors*: Environmental and genetic factors may influence the susceptibility of analgesic abusers to renal damage. Analgesic nephropathy has an apparent association with HLA-A3 and HLA-B12. The importance of other undefined factors is demonstrated by absence of renal damage in some heavy analgesic abusers, who tend to be young and obese[14].

**Pathology:**

The pathological lesion of analgesic nephropathy are renal papillary necrosis followed by cortical tubulointerstitial nephritis[1,14,17]. Apparently, initial damage to vascular supply (vasa recta) leads to medullary interstitial inflammation resulting in eventual ischaemic papillary necrosis, fibrosis and calcification. This is followed by extension of tubulointerstitial inflammation to the cortex and gradual reduction in renal size[1,13].

Macroscopically, the kidneys of advanced AN are small and scarred. On out- section, the blackish necrotic papillae are easily identified. The cortical changes include loss and atrophy of tubules and interstitial fibrosis along with a round cell infiltrate but with characteristic sparing of column of Bertini. The glomeruli show a variety of changes ranging from normal to global glomerular sclerosis[1,14].

The arteries commonly show hypertensive changes (61%) with hyalinization of arterioles and thickening of large arteries. Malignant nephrosclerotic changes may be superimposed[14]. The capillaries of urinary tract mucosa—renal pelvis, ureter, urinary bladder and of inner medulla show a characteristic change. This capillary sclerosis consists of a homogenous PAS-positive thickening of capillary basement membrane. This lesion is specific for analgesic abuse[1,14,21].

**Clinical Features:**

Analgesic nephropathy is three to four times more common in women than in men with peak incidence in between 40 and 60 years olders. The patients usually have chronic pain syndrome with somatic symptoms like malaise, weight loss, anaemia, peptic ulcer, headache, recurrent urinary tract infection (UTI), renal colic and gastrointestinal symptoms in addition to psychiatric and psychological disturbances[8,14,21]. The whole spectrum is sometimes called "analgesic abuse syndrome"[14].

Three groups of patients can be differentiated. The first and major group include depressed, neurotic women who derive pleasure from the sedative and stimulant properties of analgesic combinations. They have dependent personality with history of social problems, heavy cigarette smoking and alcohol or other psychotropic drug abuse. The second group includes people involved in precise concentrated work and thus susceptible to frequent tension headaches. The third group includes arthritic patients who require regular analgesics[21]. Autopsy studies have suggested that as many as 18 to 57% of patients with rheumatoid arthritis treated chronically with NSAIDs have postmortem evidence of papillary necrosis, though few manifest signs or symptoms of this disorder during life[22].

The commonest presentation is with signs and symptoms of chronic renal insufficiency. However, AN may be totally asymptomatic; renal insufficiency being detected during a routine check-up. The glomerular filtration rate (GFR) declines gradually. At presentation, 95% patients have reduced GFR and 14% may be in terminal failure[14,21].

Anaemia is often out of proportion to the degree of azotemia. This is probably due to NSAID-induced occult gastro-intestinal tract (GIT) bleeding and in some cases due to haemolysis caused by phenacetin metabolites, particularly in those with G6PD deficiency[14,17,21]

Hypertension is variable but frequent. It may be severe and often inversely correlated with extracellular fluid (ECF) volume. There is a disproportionate concentrating and acidifying defect in AN.

Many patients are unable to conserve sodium and water. During dietary restriction or diarrhoea, vomiting or excessive sweating, they are prone to develop pre-renal uraemia. Occasionally, regular sodium supplements are necessary to maintain sodium balance[8,14,17,21].

The physiological paradox of intravascular volume depletion and hypertension may be related to loss of medullary antihypertensive substances and activation of the renin-angiotensin and sympathetic nervous system[14].

Pyuria is early and present in almost all the cases. It is usually sterile but pyelonephritis may supervene. Proteinuria is usually mild[14,17,21].

Patients may present with urinary infection, flank pain and renal colic with gross haematuria. This is characteristic of AN and is related to passage of necrotic papillary tissue or a calculus[14,21].

**Diagnosis:**

The diagnosis of AN requires high degree of clinical suspicion and an accurate drug history. At presentation all CRF patients should be questioned carefully about their analgesic consumption, particularly about potent remedies for migraine, tension headache, backache and rheumatism. Whenever available, estimation of urinary salicylates or paracetamol (phenacetin metabolite) will exclude or strengthen the diagnosis[5,14,21].

Renal function test show early inability to concentrate urine and failure to acidify and conserve sodium[8,14,21].

Diffuse papillary calcification may be seen in a plain X-ray of abdomen and in ultrasonography (Garland sign). Renal papillary necrosis is usually demonstrated by intravenous urography (IVU) or retrograde pyelography. IVU shows bilaterally moderately shrunken kidney with "ring sign" (radiolucent sloughed out papilla surrounded by radiodense contrast filling the calyx), medullary cavity or a calyceal horn and flare. However, IVU may be completely normal[8,14,17,21].

Haematuria usually indicates continued analgesic abuse, presence of a calculus, transitional cell carcinoma (TCC), interstitial cystitis, recent RPN or malignant hypertension[14].

Renal biopsy is usually not helpful[21].

**Complications:**

1) Arterial damage leads to ischaemic heart disease (31%), cerebrovascular disease (9%) and premature aging[5,14].

2) Ureteric obstruction may result from the passage of necrotic papilla or a calculus or form ureteric fibrosis[5, 21].

3) Transtional cell carcinoma of urinary tract occurs in 8-10% patients, mostly in renal pelvis (30-40%) and in urinary bladder (52%). The induction time is about 20 years. The combined carcinogenic risk of phenacetin with smoking is higher than smoking alone[14,21]. The risk of TCC may be independent of RPN and unaccompanied by renal impairment[23].

Aspirin does not cause urothelial cancer, and the role of paracetamol is not clear[8,24].

**Management:**

The 1984 consensus conference report of the National Institutes of Health (NIH) suggests that the main management strategies must include the following[12,14]:

1) Avoidance of antipyretic-analgesic agents, as well as NSAIDs.
2) Prompt treatment of proved urinary tract infection.
3) Careful supervision and management of hypertension and chronic renal failure.
4) Regular review of patients to detect continued analgesic abuse and the development of complications. Special attention should be paid to look for silent obstructive uropathy, persistent UTI, unexplained haematuria, urinary tract tumours and cardiovascular complications.
5) Consideration and management of non-renal manifestations of the "analgesic abuse syndrome" is essential for long-term management of AN.

**Course and Prognosis:**

At initial presentation, about 14% patients are in terminal failure. Of the remaining patients, 20% improve, 50% remain stable and 30% show poor prognosis[14].

Poor prognostic indices include[14]:

1) Evidence of continuing analgesic abuse
2) GFR less than 20 ml/min/173 $m^2$ of body surface area
3) Resistant or malignant hypertension
4) Persistent proteinuria
5) Secondary gout or hyperuricaemia
6) Associated transitional cell carcinoma

The overall 5-year cumulative survival of patients with AN is around 70%. The commonest cause of mortality are inschaemic heart disease (IHD), cerebrovasular disease (CVD) and septicaemia. Analgesic nephropathy patients fare poorly on dialysis or with transplantation because of high incidence of atherosclerotic vascular complications[14].

**Conclusion:**

The importance of analgesic nephropathy is related to three factors[5]:

1) It is one of the few preventable cause of CRF.
2) Discontinuation of analgesics usually results in stabilization and improvement in renal function[3,12].
3) Continued analgesic abuse leads to progressive deterioration[17,21].

In Bangladesh, no data is available regarding analgesic nephropathy. Renal insufficiency in any middle age woman with chronic pain syndrome or anaemia out of proportion to the degree of azotemia in a similar background should arouse the suspicion of the physician. It is curious to note that loin pain or GIT symptoms themselves often lead to increased analgesic consumption. And again, NSAIDs are often prescribed for symptomatic primary renal disease.

Though only phenacetin, paracetamol and aspirin have been investigated well enough to reveal their effect on long-term use, other NSAIDs should be used with caution too[8,12,19].

The drug policy of the Government of Bangladesh ensures that both phenacetin and analgesic combinations are not available in this country. This is a hearty and reassuring fact. But paracetamol and many NSAIDs (diclofenaca. ibuprofen) are easily and widely available and are used quite indiscriminately. We should. therefore, beware of the danger that underlies the excessive use of these analgesics.

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CASE REPORTS

# Acute Unstable Dislocation of Thumb Metacarpal —A Method of Closed Treatment

CHOWDHURY ISHRAQ-UZ-ZAMAN, MBBS, MS

**Summary:**

**This article reports a rare case of acute complete dislocation of the thumb metacarpal associated with an avulsion fracture of the trapezium. Although unstable, the dislocation was treated by a closed method. Such a procedure for the type of injury mentioned is not reported in the literature but had been proved successful. This method may be attempted for such dislocations at centres that do not have facilities for percutaneous pinning.**

*(J Bangladesh Coll Phys Surg 1993;11: 98-100)*

**Introduction:**

Acute complete dislocation of the thumb metacarpal is a rare injury. Association of this injury with a fracture of the trapezium renders its reduction by closed methods very difficult to maintain. In the absence of facilities for percutaneous pinning, such injuries are like nightmare for treating surgeons. An innovative effort in such a situation is described below.

**Case Report:**

A 28-year old male patient reported to the out-patient department of a peripheral hospital following a motorcycle accident. The patient had fallen off the vehicle on his left outstretched hand, the brunt of the trauma being taken by the thumb. On examination, there was acute tenderness over the region of the thumb carpometacarpal joint with an obvious deformity at the site. The thumb was held in a position of adduction and slight flexion. Anteroposterior and oblique radiographs revealed complete dislocation of the affected thumb metacarpal with a widely displaced avulsed fragment of the trapezium (Fig. 1). The dislocation was reduced under general anaesthesia and a thumb spica cast was applied with the thumb in abduction and extension. Check radiograph, however, revealed a persistence of the dislocation. Due to the paucity of proper facilities, percutaneous pinning could not be undertaken, and a second attempt was made at closed manipulation without any fruitful outcome. Later, a window was made in the cast over the involved carpometacarpal joint (Fig.2) and under general anaesthesia the dislocation was reduced. The space was then packed with cotton felts of appropriate size and the window in the cast was

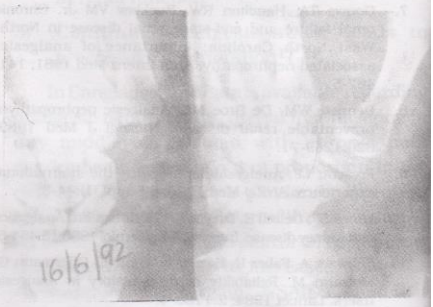


**Fig-1**: *Initial X-ray showing the thumb metacarpal dislocation and avulsion fracture of the trapezium*

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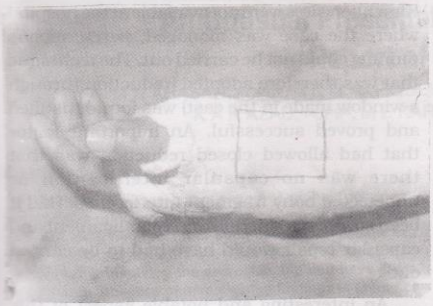

**Fig 2:** *Site of window made in the cast*

closed. Check radiographs this time showed proper reduction of the dislocation and acceptable apposition of the avulsed fragment of the trapezium (Fig.3). The cast was removed after six weeks from the date of reduction, and the patients was encouraged active thumb movements to overcome joint stiffness. On follow-up at about 12 weeks from the date of successful reduction, check x-rays revealed that the reduction was well maintained and the fracture of the trapezium was uniting well (Fig.4). Movements at the thumb carpometacarpal joint

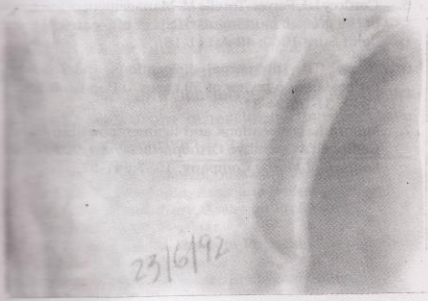


**Fig-3:** *The dislocation reduced through the window*

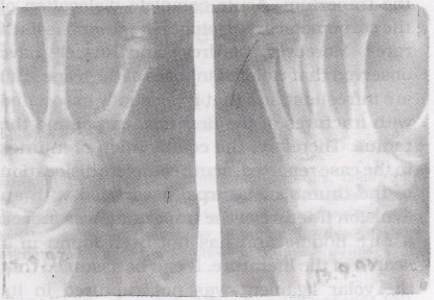

**Fig 4:** *Check X-ray about 12 weeks later showing maintenance of the reduction and union of the trapezial fragment*

was full but mildly painful at extremes of flexion and extension. Follow-up six months later however revealed a joint with full and painless range of movement and with an effective pinch action.

**Discussion:**

The carpometacarpal joint of the thumb is a saddle joint whose longitudinal axes are perpendicular[1]. Although the reciprocating concavo-convex surfaces forming the joint produce a degree of inherent intrinsic stability, the most significant factor in maintaining carpometacarpal stability is the volar ligament (which passes from the trapezium to the volar beak of the thumb metacarpal)[2]. Dorsal subluxation at this joint is inherent with pinch, but it is this volar ligament that prevents such a subluxation[3]. Injuries of the volar ligament may result in varying degrees of displacement of the thumb metacarpal out of the saddle of the trapezium depending on whether the tear of the volar ligament is partial or complete[2]. Since, in the case reported, the thumb metacarpal was dislocated entirely, the tear of the volar ligament can be assumed to have been complete.

Another interesting aspect of the case reported was the associated avulsion fracture of

the trapezium. Acute complete dislocation of the carpometacarpal joint of the thumb is itself rare[4]. Moreover, Cordrey[5] and Russel[6] have observed that isolated injuries of the trapezium are infrequent and that it is usually associated with fractures of the first metacarpal and the radius. Therefore, the combination of injuries in the case reported, acute complete dislocation of the thumb metacarpal associated with an avulsion fracture of the trapezium, was indeed a rare finding and has not been found in a search of the literature. It can be assumed that the volar ligament was not ruptured in its substance but instead was avulsed of its attachment to the trapezium thereby allowing a complete dorsal dislocation of the thumb metacarpal. Evidently, the central lesion in this case was the avulsion of the trapezial attachment of the volar ligament. The mechanism that could have led to such an injury was probably a longitudinal impact through the thumb metacarpal with the thumb held rigidly in abduction resulting from an attempt by the patient to break his fall from the motorcycle.

In treating acute complete dislocations of the thumb metacarpal, Dray and Eaton[2] and also Milford[3] have advocated an initial attempt at closed reduction and immobilisation in a thumb spica cast with the metacarpal in abduction and extension. This is to be continued for four weeks if follow-up radiographs do not show any loss of reduction. The same principle was adopted for the case reported, but the reduction could not be maintained even after two attempts. This was probably the result of the associated trapezium fracture which had rendered difficulty to the proper seating of the metacarpal. Since fluoroscopic facilities and Kirschner wires were not available at the hospital where the case was managed, percutaneous pinning could not be carried out. The technique that was therefore adopted (reduction through a window made in the cast) was found justified and proved successful. An important factor that had allowed closed reduction was that there was no capsular interposition or undetected bony fragment interference. Had it been so, open reduction and volar ligament and capsular repair would have had to be carried out[2].

An interesting and notable aspect of this case was that on reduction of the metacarpal dislocation, the avulsed portion of the trapezium had reduced spontaneously and had subsequently united to the main fragment.

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# An Unusual Presentation of Typhoid Fever —Report of Four Cases

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**Summary:**

**Arthritis is a rare complication of typhoid fever and arthritis as a principal manifestation of typhoid fever is very unusual. Here we report four such cases. One patient had symmetrical polyarthritis whereas the other three had monoarthritis involving the sacroiliac, hip and knee joints respectively. Absence of investigative findings in favour of common causes of polyarthritis/monoarthritis, failure of response to non-steroidal anti-inflammatory drugs, isolation of salmonella from blood or significant Widal serology and satisfactory clinical response to drugs effective against salmonella led us to the diagnosis of typhoid arthritis.**

*( J Bangladesh Coll Phys Surg 1993; 11 : 101-103)*

## Introduction:

Typhoid fever usually persues a course of prolonged persistent fever. When the disease process reaches the third or fourth weeks, due to delay in diagnosis or due to resistance to conventional antibiotics[1,2], chances of development of complications increases. Moreover, there is a recent change in the clinical pattern of typhoid fever leading to further difficulty in diagnosis[3] and thereby increasing the incidence of many rare complications. Usual complications are intestinal perforation and haemorrhage. Meningitis, bronchitis, pneumonia, hepatitis, parotitis, orchitis, osteomyelitis, arthritis etc. are other rare complications[4].

Typhoid arthritis is a form of septic arthritis and can be confused with other causes of polyarthritis or monoarthritis. In view of the rarity of the complication and difficulty in differentiation from other joint disorders, we have decided to report the cases.

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Received: December '92 Accepted: January '93

## Case report:

Case 1. A 23 -year old housewife was admitted to the hospital for fever of two weeks, pain and swelling of the knees, ankles, wrists and small joints of the hands and feet of both sides of one week duration. She took cotrimoxazole, ampicillin and paracetomol outside the hospital without any benefit. On examination, she was found to be febrile with a temperature of 104°F. Examination of the locomotor system revealed swelling, tenderness and moderate restriction of movement of the said joints. Abdominal examination revealed splenomegaly. Her total and differential count (T.C and D.C.) of white blood cells (W.B.C), urinalysis and chest X-ray were normal. Erythrocyte sedimentation rate (E.S.R) was 50 mm in first hour and R.A. test was negative. A provisional diagnosis of rheumatoid arthritis was made and was treated with aspirin in sufficient doses for two weeks. There was no clinical response. Further investigations revealed normal A.S.O. titre and negative test for L.E. cells. Widal test was then done and was found to be positive in significant titres (TO 1:640; TH1:320). Further aspirin therapy was stopped and oral pefloxacin was started alone in a dose of 400 mg twice daily for two weeks. Fever subsided on the third day, joint symptoms and size of the spleen regressed gradually. She was discharged one week after completion of

therapy and was reviewed one month later and was without further complaints.

Case 2. A 21-year old housewife was admitted to the hospital for remittent fever and pain at the left buttock of four days duration. She did not give any past history of low back pain or local trauma. After sending a sample of blood for culture and sensitivity, oral contrimoxazole was started in a dose of 960 mg twice daily along with oral paracetamol. There was no clinical response. Moreover, there was severe tenderness over the left sacroiliac (S.I) joint and other clinical tests for involvement of the left S.I. joint became evident[5]. X-ray of the left S.I. joint was normal. Blood culture and sensitivity showed growth of salmonella sensitive to ciprofloxacin and ceftriaxone, and resistant to the conventional antibiotics including cortrimoxazole. Since she was lactating, Inj. ceftriaxone was started in a dose of 2 gm intravenously for one week[6]. Fever and joint pain subsided on the third and fourth days respectively of ceftriaxone therapy.

Case 3. A 13-year-old boy was well one month prior to admission when he experienced fever, pain at the right groin and difficulty in walking. Fever was remittent in type fluctuating between 101°F and 103°F. Liver and spleen were just palpable. Examination of the locomotor system revealed tenderness at the right hip joint with moderate restriction of movement. His total and differential white cell count, urinalysis and chest X-ray were normal. E.S.R. was 110 mm in first hour and Tuberculin test and X-ray of the right hip joint were normal. He was given a course of cephalosporin, 500 mg six hourly for one week, but there was no clinical response. Further investigations revealed positive Widal test in significant titres. He was treated with oral amoxycillin 1 gm six hourly for two weeks. Fever subsided on the sixth day, joint pain gradually diminished with restoration of hip movement within further one week. He was discharged one week after completion of therapy and remained well for one month afterwards during follow up.

Case 4. A 32-year-old housewife presented with fever and swelling of the right knee joint for one month. Fever was remittent in type having no other urinary, bowel or eye complaints. Abdominal examination revealed splenomegaly of 3 cm size. Right knee joint was moderately swollen and tender with marked restriction of movement. Routine investigations were normal except E.S.R. which was 90 mm in first hour. A.S.O titre was 200 units and tuberculin test was negative. X-ray of the knee joint showed only soft tissue swelling. He was treated with aspirin, indomethacin and tetracycline in therapeutic doses for sufficient period without any response. Further investigations revealed positive Widal test. Ciprofloxacin was started in a dose of 500 mg twice daily for two weeks. Fever subsided on the fourth day, joint pain and swelling diminished by the seventh day. He was reviewed periodically for one month after completion of therapy without any further complaints.

**Discussion :**

Although arthritis is a recognised complication of typhoid fever[4], it is very much unusual to be the presenting feature, as happened in our cases. In the first case, symmetrical polyarthritis mimicked rheumatoid arthritis. Systemic lupus erythematosus (SLE) and rheumatic fever were other possibilities. However, persistence of fever and joint symptoms in spite of administration of NSAIDs, negative tests for the common causes of polyarthritis, positive Widal serology and satisfactory clinical response to pefloxacin, led us to the diagnosis of typhoid arthritis. Typhoid arthritis differs from other causes of septic arthritis in being polyarticular[7] and findings in our first case is consistent with that, but our other three casses were monoarticular. In the second case, who presented with unilateral sacroilitis, diagnosis

of typhoid arthritis was more or less straight forward due to isolation of salmonella from blood and satisfactory clinical response to anti-typhoid drug, ceftriaxone[6]. In the third and fourth cases, typhoid arthritis was not suspected clinically. Moreover, some form of septic arthritis or tuberculous arthritis were thought[7]. Failure of response to antibiotics and NSSAIDs, presence of splenomegaly, absence of other suggestive investigative finding in support of monoarthritis, positive Widal serology and response to fluoroquinolones[4] were in favour of typhoid arthritis.

In conclusion, typhoid fever should be considered as a cause of arthritis in our country where the disease is endemic[8].

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## COLLEGE NEWS

(J Bangladesh Coll Phys Surg 1993; 11: 104-106)

**Continuing Medical Education**

24-6-93 - Dr. A.K. Azad Khan
Director, Research & Development
BIRDEM, Dhaka delivered lecture on
"Plant Material as a source of antidiabetic agents".

**Examination News:**

Results of FCPS part—I, FCPS part—II and MCPS Examinations held in July 1993 are given below:

467 candidates appeared in FCPS Part I Examination held in July, 1993, of which 51 candidates came out successful. Subjectwise results are as follows:

| Subject | Number appeared in theory examination | Number qualified for viva-voce. | Number passed |
|---|---|---|---|
| Medicine | 99 | 2 | 2 |
| Surgery | 118 | 55 | 23 |
| Paediatrics | 48 | 16 | 6 |
| Obst. & Gynae | 59 | 8 | 3 |
| Ophthalmology | 47 | 20 | 2 |
| ENT Diseases | 21 | 3 | 2 |
| Psychiatry | 8 | 2 | 0 |
| Anaesthesiology | 27 | 11 | 6 |
| Radiology | 4 | 0 | 0 |
| Radiotherapy | 7 | 1 | 1 |
| Physical Medicine | 10 | 6 | 4 |
| Haematology | 12 | 5 | 2 |
| Biochemistry | 1 | 0 | 0 |
| Microbiology | 3 | 0 | 0 |
| Histopathology | 3 | 0 | 0 |
| Total | 467 | 130 | 51 |

95 candidates appeared in FCPS Part II Examination in different subjects. List of candidates who satisfied the board of examiners is as follows:

| Roll No | Name | Graduated from | Speciality |
|---|---|---|---|
| 1 | Dr. Md. Humayun Kadir | Dhaka Medical College | Medicine |
| 5 | Dr. Md. Shawkat Ali | Chittagong Medical College | Medicine |
| 12 | Dr. Md. Abdul Kader Akanda | Rajshahi Medical College | Medicine |
| 14 | Dr. Sarder Mokaddas Hossain | Sher-e-Bangla Med. College | Medicine |
| 19 | Dr. Prabir Kumar Das | IPGMR, Dhaka | Medicine |
| 24 | Dr. Md Mofazzel Hossain | Rajshahi Medical College | Medicine |
| 28 | Dr. Sakhawat Hossain | Dhaka Medical College | Medicine |
| 31 | Dr. Md. Jahangir Alam | Sir Salimullah Med. College | Medicine |
| 34 | Dr. A Z M Mostaque Hossain | Rajshahi Medical College | Surgery |
| 36 | Dr. Bipul Kumar Chaki | Rajshahi Medical College | Surgery |
| 37 | Dr. Md. Abdul Quayum | Rajshahi Medical College | Surgery |
| 39 | Dr. Jitesh Chandra Saha | Rajshahi Medical College | Surgery |
| 40 | Dr. Md. Abdul Wohab Khan | Mymensingh Medical College | Surgery |
| 42 | Dr. Imtiaz Ahmad | Dhaka Medical College | Surgery |
| 44 | Dr. Md Zillur Rahman | Mymensingh Medical College | Surgery |
| 52 | Dr. Md Abdullah Al Amin | Dhaka Medical College | Surgery |
| 53 | Dr. Sk. Sader Hossain | Sir Salimullah Med. College | Surgery |
| 57 | Dr. Sayed Akhter Khan | Dhaka Medical College | Surgery |
| 60 | Dr. Bibhuti Bhusan Nath | Chittagong Medical College | Paediatrics |
| 62 | Dr. Mohammaed Abdullah Al Mahboob | Chittagong Medical College | Paediatrics |
| 64 | Dr. Pranab Kumar Rudra | Chittagong Medical College | Paediatrics |
| 65 | Dr. Md Masudur Rahman | Dhaka Medical College | Paediatrics |
| 67 | Dr. Md. Ataur Rahman | Rajshahi Medical College | Paediatrics |
| 69 | Dr. Tariq Hassan | Chittagong Medical College | Paediatrics |
| 70 | Dr. Mrinal Kumar Sarker | Sher-e-Bangla Med. College | Obst & Gynae |
| 73 | Dr. Begum Hosne Ara | Mymensingh Medical College | Obst & Gynae |
| 77 | Dr. Dipti Pramanik | Rajshahi Medical College | Obst & Gynae |
| 79 | Dr Md. Lutfor Rahman | Mymensingh Medical College | Ophthalmology |
| 80 | Dr Md. Mahbubul Islam | Mymensingh Medical College | Ophthalmology |
| 84 | Dr. Md. Ashraful Islam | Rajshahi Medical College | ENT Diseases |
| 85 | Dr. Anwarul Haider | Chittagong Medical College | ENT Diseases |
| 86 | Dr. Ratan Kumar Das Chowdhury | Chittagong Medical College | ENT Diseases |
| 87 | Dr. Anil Krishna Shill | Sher-e-Bangla Med. College | ENT Diseases |
| 90 | Dr. Muhammad Ali | Sir Salimullah Med. College | Anaesthesiology |
| 94 | Dr. Md Saiful Islam | Mymensingh Medical College | Radiology |
| 95 | Dr. Birendra Nath Bhattacharjee | Sylhet Medical College | Physical Med |

109 candidates appeared in MCPS Examinations in different subjects; List of candidates who satisfied the board of examiners is as follows:

| Roll No | Name | Speciality |
|---|---|---|
| 22 | Dr. A K M Khairul Anam Chowdhury | Paediatrics |
| 26 | Dr. Md. Khaled Noor | Paediatrics |
| 35 | Dr. Mahfuz Ara Begum | Obst & Gynae |
| 36 | Dr. Fouzia Begum | Obst & Gynae |
| 37 | Dr. Syeda Badrun Nahar | Obst & Gynae |
| 39 | Dr. Md. Zafirul Hassan | Obst & Gynae |
| 41 | Dr. Md. Khorshed Alam | Obst & Gynae |
| 42 | Dr. Bani Roy Choudhury | Obst & Gynae |
| 44 | Dr. Shirin Akter Begum | Obst & Gynae |
| 48 | Dr. Dipi Barua | Obst & Gynae |
| 49 | Dr. Shaheda Parveen | Obst & Gynae |
| 50 | Dr. Sashanka Kumar Sutra Dhar | Obst & Gynae |
| 54 | Dr. Arati Rani Debnath | Obst & Gynae |
| 57 | Dr. Mst Husne-Ara-Begum | Obst & Gynae |
| 58 | Dr. Mahfuza Khatun | Obst & Gynae |
| 60 | Dr Begum Syeda Nazneen | Obst & Gynae |
| 64 | Dr Sayema Ahmed | Obst & Gynae |
| 66 | Dr Sarita Chopara | Obst & Gynae |
| 68 | Dr Jesmin Akter | Obst & Gynae |
| 70 | Dr. Zeba Ahmed | Obst & Gynae |
| 72 | Dr. Tahmina Kabir | Obst & Gynae |
| 74 | Dr. Indra Prasad Prajapati | Obst & Gynae |
| 83 | Dr Bipul Chondra Roy | Ophthalmology |
| 84 | Dr. Md. Moshidul Ashraf | Ophthalmology |
| 87 | Dr. Sk. Habibur Rahman | ENT Diseases |
| 90 | Dr. Zahir Uddin Ahmad | Psychiatry |
| 91 | Dr. Md Nazrul Hoque | Psychiatry |
| 96 | Dr. Arif Ahmed Khan | Clinical Pathology |
| 97 | Dr. Mainuddin Ahmed | Clinical Pathology |
| 98 | Dr. Tapan Kanti Das | Clinical Pathology |
| 101 | Dr. Md. Mukhlesur Rahman Khan | Clinical Pathology |
| 106 | Dr. Md Abul Farah | Dermatology & Venereology |
| 107 | Dr. Md Shah Alam | Forensic Medicine |