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CONTENTS

EXTRAPULMONARY TUBERCULOSIS IN BANGLADESH A REVIEW OF 47 CASES

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Key words :

Tuberculosis, extrapulmonary.

Summary :

A retrospective study of 47 cases of extrapulmonary tuberculosis admitted to two hospitals in Bangladesh was undertaken. Twenty nine male and 18 female patients with mean age of 27.4 years were reviewed. Sites of involvement included lymph node (27.7%), bone and articular sites (21%), intestine (10.6%), meninges (10.6%), pericardium (8.5%), blood (6.4%) and miscellaneous sites in the descending order. High ESR was found in 94% patients, tuberculin test was positive in 98% and caseating granuloma was found in 40% patients. In 47% patients diagnosis was based on clinical features and response to therapeutic trial.

These observations indicate that extrapulmonary tuberculosis has diverse clinical manifestations and pose diagnostic problem even in a country where tuberculosis is common.

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Introduction :

Tuberculosis is a systemic infectious disease with varying clinical manifestations (Hinshaw, 1980). Extrapulmonary tuberculosis has a broad spectrum of clinical manifestations that may be referrable to almost any organ system and should be considered in the differential diagnosis of any systemic disease (Alvarez and McCabe, 1984). It also remains an important cause of fever of unknown origin (Jacoby, 1973), Despite the declining incidence of pulmonary tuberculosis in developed countries, the frequency of reported cases of extrapulmonary tuberculosis remained relatively constant (Farer, 1979). This is more true for a country like Bangladesh where there is high prevalence of tuberculosis. In this retrospective study evaluation of clinical manifestations and diagnostic methods in extrapulmonary tuberculosis is undertaken.

Materials and Methods :

Forty seven patients with extrapulmonary tuberculosis were reviewed by a retrospective survey of case records. They include 24 patients in one medical unit of Institute of Post-Graduate Medicine and Research between January, 1988 to June, 1989 and 23 patients diagnosed

at medical unit of Cox's bazar district hospital between January, 1983 to July, 1987 (diagnosed by M.A.F.). Patients with tubercular pleural effusion alone were excluded.

The diagnosis of extrapulmonary tuberculosis was established on the basis of one or more of the following criteria :

a) Biopsy material demonstrating caseating granulomas ;

b) Positive smear for AFB from pathological specimen ;

c) Clinical features compatible with tuberculosis and a favourable response to antitubercular therapy ;

d) A miliary pattern on chest roentgenogram.

Results :

A total of 47 patients (29 male and 18 female) with a median age of 27.4 years (range 10-60) were identified. The clinical types of extrapulmonary tuberculosis in these 47 patients studied are shown in table I. Brief clinical presentation in different types of extrapulmonary tuberculosis is given below.

Table—I

Clinical types of extrapulmonary tuberculosis

Type of extrapulmonary tuberculosis	Number	Percentage
Lymphadenopathy	13	27.7
Spinal tuberculosis	8	17.0
Intestinal tuberculosis	5	10.6
Meningitis	5	10 6
Pericarditis/effusion	4	8.5
Miliary tuberculosis	3	6.4
Epididymitis with orchitis	2	4.3
TB Arthritis (knee, Hip)	2	4.3
Tuboovarian mass	1	2.1
Anorectal fistula	1	2.1
Hepatic granuloma	1	2.1
TB hard palate	1	2 1
Cold abscess	1	2.1

Tuberculous lymphadenitis :

TB lymphadenopathy was diagnosed in 13 patients. Patients age ranged between 13-28 years (mean-21.6). Four patients were female. Mass or lymphadenopathy was presenting symptom in 11 patients. Two patients were presented with discharging sinus and one patient developed lymphadenopathy while investigating for PUO in hospital. Fever was present in nine patients. The anatomical distribution of involved lymph node was cervical alone (11), both axillary and cervical (1) and generalized lymphadenopathy (1). Positive tuberculin test was found in all the patients. Right sided pleural effusion and bilateral pulmonary tuberculosis was found in one patient each. Caseating granuloma compatible with tuberculosis was found in all the 13 specimens. Stain for AFB was not done in histological section.

Osseous and articular tuberculosis :

Ten patients were diagnosed as having osseous or articular tuberculosis. Anatomical site of involvement included spine (8), hip (1) and knee (1). Age of the patients ranged from 10-54 (mean 32.0) years.

Three patients were female. The most common presenting symptom in patients with

spinal tuberculosis was back pain in eight patients and paraplegia was present in one patient. Gibbus or spinal deformity was present in five patients. Fever, weight loss, anorexia was frequent. Tuberculin test was positive in all the patients. Radiological study of the spine showed disc space narrowing with erosion of vertebral body or vertebral compression in all the eight patients. Lesions were localized between T9-11 in six cases and between T6-7 in two cases. One patient had paravertebral abscess. Biopsy material from the abscess showed caseating granuloma consistent with tuberculosis.

Intestinal/abdominal tuberculosis :

Five cases of intestinal tuberculosis, one case of granulomatous hepatitis and one case of TB anorectal fistula was diagnosed. Age ranged from 13-48 (mean 36.1) years. Three cases were female. Salient features on admission included fever in six, abdominal lump in two, intestinal obstruction in two,hepatomegaly in one and anorectal fistula in one patient. Ascites was present in one case. Tuberculin test was positive in six patients. Chest X-ray showed evidence of bilateral pulmonary tuberculosis in two patients. Barium follow through showed narrow terminal ileum in three cases. Caseating granuloma was found in two patients who have undergone diagnostic laparotomy. Caseating granuloma was found in liver in one case. AFB was demonstrated from the case of discharging sinus and so also from caseating granuloma.

Tuberculous meningitis :

There were five cases of tuberculous meningitis whose age ranged from 18-60 years. Two of them were female. Fever was a uniform presenting feature and other features included headache in three, meningeal irritation in three and unconciousness in three patients. Two patients had multiple cranial nerve palsy and one patient had collapse right lung in chest X-ray. CSF study showed elevated white cell count (20-50/HPF), raised protein (80-125mg/dl) and low glucose value (<45mg/dl) in all the patients. One patient died in hospital.

Pericardial effusion :

Four patients ranging from 22-54 years of age were identified. Fever, cough and dyspnoea were presenting features in all the patients. Enlarged cardiac silhouette suggestive of pericardial effusion was pesent in all the patients, so also echocardiography. ECG changes of low voltage tracing and T inversion was present in all the patients. Tuberculin test was positive in all the patients. One patient had bilateral pleural effusion as well.

Miliary tuberculosis :

Fever, anorexia and anaemia were present in three cases of miliary tuberculosis. Positive tuberculin test, raised ESR and miliary shadow in chest X-ray was present in all the cases.

One patient each of tubercular orchitis, epididymitis and TB hard palate was identified. The patient with TB hard palate was presented with dysphagia. Fungating ulcers involving hard palate, uvula and anterior fauces were found. Jugulodigastric lymph nodes were enlarged. Biopsy from ulcer margin and JG gland showed caseating granuloma.

Basis of diagnosis is shown in table II. High ESR (> 20mm 1st hr, Westergren me-

Table—II

Basis of diagnosis in extrapulmonary tuberculosis

Clinical Type of Tuberculosis	Positive Tuberculin Test	X-ray	Histology (caseating granuloma)	Raised ESR	Positive AFB
Lymphadenopathy (13)	13	Chest-normal (11) Bilateral PT (1) Rt. Pleural effusion (1)	13	10	—
Spinal Tuberculosis (8)	8	Spine-collapse/ destruction (8)	1	8	—
Intestinal TB (5)	4*	Chest-Bilateral PT (2) Ba follow through of SI-narrow terminal ileum (3)	2	5	—
TB Meningitis (5)	4	Chest-collapse Rt lung (1)	—	5	—
Miliary TB (3)	3	Chest-Miliary Pattern (3)	—	3	—
Pericardial effusion (4)	4	Chest-cardiomegaly (4) Positive Echo ECH Finding	—	5	—
TB Arthritis-knee, hip (2)	2	Knee-Osteophyte (1)	—	2	—
Epididymoorchitis	2	—	—	2	—
TB hard palate (1)	1	—	1	1	—
Anorectal fistula/cold abscess (2)	2	—	1	2	2
Granulomatous hepatitis (2)	1	—	1	1	—
TB Tuboovarian mass (1)	1	—	1	1	—

*Tuberculin test was not done in one patient.

thod) was found in 94% patients and positive skin test was demonstrated in 98% of patients. Chest X-ray were normal in 34 patients (72%),three patients had evidence of bilateral pulmonary tuberculosis, three patients had evidence of miliary tuberculosis, two patients had evidence of pleural effusion, one patient had collapse right lung and four patients had evidence of pericardial effusion. Identification of caseating granuloma in patho-

logical specimen was found in 20 patients (40%), stains of specimen for AFB was helpful in two patients (4.3%) and miliary pattern on chest X-ray was found in three patients (6.4%). In 22 patients (47%) diagnosis was based on clinical features compatible with tuberculosis and favourable response to antitubercular therapy.

Discussion :

In the present series 62% of our patients were male and 32% female. Farer et al (1979) reported of 55% male and 45% female among extrapulmonary tuberculosis cases. Lymphadenopathy is the commonest of extrapulmonary tuberculosis in this study which comprises 27.5% of patients. Lymphadenitis accounted one fifth of extrapulmonary tuberculosis in various studies (Alvarez 1984; Farer, 1979; Mokhtar, 1983). Similar pattern was found by Mokhtar et al (1983) and Froude et al (1982). The present patients were young adults with an average age of 20 years. Alvarez et al (1984) found the average age to be 37 years. High incidence of early age lymphadenitis correlates with high rate of tuberculosis in our society. As in other series, most patients were asymptomatic and presented because of lymphadenopathy. All patients had cervical lymphadenopathy in this series. In addition one patient had axillary involvement and one patient had generalized lymphadenopathy. This finding correlates with other studies (Alvarez; 1984; Cantrell. 1975). Discharging sinus, common in older literature, was present in two patients in this series.

Spinal and articular tuberculosis comprises 21% of extrapulmonary tuberculosis in this series which is close to the findings of Alvarez et al (1984). The mean age of patients of osseous tuberculosis was 32 years (range 10-54). Scrimgeour et al (1980) found the mean age of spinal tuberculosis to be 29 years in their series.

Pain was the most frequent presenting symptoms is this series like the findings of Alvarez et al (1984). On examination gibbus or spinal deformity was visible in 63% cases in this series. Scrimgeour et al (1980) found gibbus or spinal deformity in 51% of the patients in Papua new Guinea. The lesion involved T9-11 in six cases and T6-7 in two cases. One patient was presented with paraplegia.

Five patients of intestinal tuberculosis were found in this series. Exploratory laparotomy was necessary to establish the diagnosis histologically in 23 cases. In several previous studies (Sherman et al, 1980; Mandal, 1976; Lambrianides, 1980) 39-90% of patients were diagnosed unexpectedly during abdominal exploration because of abdominal conditions like bowel obstruction, perforation, lymphoma and malignancy. Three patients were diagnosed by gastrointestinal tract barium X-ray studies together with high ESR and positive tuberculin test. Sharp and Goldman (1987) suggested that in Asian patients with difficult-to-diagnose abdminal symptoms accompanied by malaise, raised ESR and a positive Mantoux test, a therapeutic trial of antituberculous therapy should preceede diagnostic laparotomy. A single case of anorectal fistula secondary to tuberculosis was diagnosed by demonstration of AFB and caseating granuloma as demonstrated by Mandal (1976).

Five cases of tubercular meningitis were found in adult patients in this series. Primary tuberculosis developing later in life

may alter the age incidence of meningitis from its customary occurance in childhood to more frequent occurance in adults (Alvarez, 1984). CSF findings in our series is consistent with increase protein, low sugar and increase cell count together with negative routine bacteriological study.

All the three patients of miliary tuberculosis had fever, weakness, anorexia, very high ESR and miliary shadows in X-ray which is consistent with standard tests (Hinshaw, 1980).

Tubercular pericardial effusion (four cases) was diagnosed on the basis of clinical features, raised ESR, tuberculin test end response to antitubercular therapy. None of the patients had concommitent pulmonary infiltration. Similar results were noted by Alvarez et al (1984). Rooney et al (1970) reported associated pleural effusion in 71% of their patients, whereas only one of our patient had associated exudative pleural effusion. Pleural effusion when found is an important source of diagnostic material.

One case of oral manifestation of tuberculosis was found in this series. A fungating ulcer involving soft palate, uvula and anterior fauces was found in a young female patient. Biopsy from the lesion showed granulomatous changes consistent with tuberculosis. After antitubercular therapy posterior nare was occluded which was relieved by surgery. Similar case reports are described by Lathan (1971) and Bookes et al (1982). Hepatic granuloma of tubercular origin was found in one patient only. Karn et al (1959) demonstrated granuloma of various types in liver biopsy specimen in 80% of extrapulmonary tuberculosis in their study. However, liver biopsy was not routinely performed in our patients.

The reviewed cases of extrapulmonary tuberculosis persented in this paper do not reflect the prevalence of the disease but indicate the diversity of clinical presentation and the diagnostic problem that might be encountered even in a country like Bangladesh where tuberculosis is still common. Clinical diagnosis combined with strongly positive tuberculin test, high ESR and favourable response to antitubercular therapy will remain an important diagnostic tool if other more accurate methods are not available. Thus early diagnosis will prevent fatal mortality and morbidity from this dreadful but curable disease.

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FREQUENCY OF TOXOPLASMOSIS IN LYMPHADENOPATHY OF UNKNOWN ORIGIN

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Key words :
Toxoplasmosis.

Summary :

Frequency of toxoplasmosis among the surgically resected lymph nodes was the subject matter of this study. Two hundred and forty four randomly collected biopsy samples of lymph nodes were studied. Of these 84 cases were histologically diagnosed as chronic non specific lymphadenitis and six as toxoplasmosis. The remaining cases were either of tuberculous nature or lymphoma/metastatic tumours. The frequency of toxoplasmosis within 90 mentioned cases was 6.67%. The prevalence of toxoplasma infection on the basis of serology was 70.24% in 90 cases and about 48% in age matched healthy controls. It is concluded that acquired toxoplasmosis is not an unconmon cause of lymphadenopathy in this country.

Introduction :

The term Toxoplasmosis refers to a disease caused by an ob'igate intracellular protozoa *Toxoplasma gondii*. Toxoplasmosis was first identified in human in 1923 in Prague. It is a zoonosis. The cat is the definitive host and all mammals and birds may become infected. There is a great deal of geographical variation in the prevalence of human infection with *T. gondii* (Wallace, 1976). Toxoplasmosis is a cosmopolitan and common infection affecting nearly a third of human race (Joklik et al, 1984). Toxoplasmosis could be congenital or acquired (Williams, 1983 ; Fleck, 1985). The natural mechanism of infection is by ingestion of cysts or oocysts in case of acquired toxoplasmosis. Infection may also be acquired through blood transfusion, leukocyte transfusion, organ tranplantation and laboratory accidents. Transmission from mother to foetus causes congenital toxoplasmosis. The disease is prevalent in warm and humid climate (Remington et al, 1960).

Toxoplasmosis is believed to constitute about 5-8% of all lymphadenopathy of unknown origin (Jones et al, 1965). It is recognised that toxoplasma infection is responsible for 5-15% of the lymphadenopathies seen in young adults (Krick and Remington, 1978). Toxoplasmosis is commonly encountered as cervical lymphadenopathy often involving nodes of the

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posterior triangle in the neck (Wright and Issacson, 1983). Acquired toxoplasmosis is frequently seen as lymphadenopathy of unknown origin and in young adults. But its major importance lies in the physicians' and pathologists' unawareness of its existence despite its frequency. Morphological change in the lymph node in case of acquired toxoplasmosis may be confused with lymphoma and reactive hyperplasia. Therefore, there is a distinct possibility to make a false negative diagnosis of lymphoma in case of acquired toxoplasmosis or even in the presence of reasonable clues, the pathologists may prefer to give a diagnosis of nonspecific reactive change or chronic nonspecific lymphadenitis. Moreover, the prevalence has not been investigated in this country. This study aims at finding out the frequency of toxoplasmosis in surgically removed enlarged lymph nodes and the frequency of seropositivity with regard to toxoplasmosis infections in histologically confirmed patients.

Materials and Methods :

Surgically removed lymph node samples were collected. All lymph node specimens were examined grossly and then sections were made for paraffin embedding for histopathological examination. A total of 244 lymph nodes were collected and examined for histological diagnosis. With Haematoxylin and Eosin (H & E) stain, 146 were diagnosed either as tuberculosis, metastatic carcinoma, lymphoma or normal. The remaining 98 were provisionally diagnosed as chronic nonspecific lymphadenitis or toxoplasmosis. Out of 98, available 90 cases were subsequently studied for serological and morphological evidence of toxoplasmosis.

Blood samples (3-5ml) were collected from available patients (n=90). Sera were collected from these samples of blood for subsequent serological test for Toxoplasma antibody. Latex agglutination test (Toxocell latex, Biokit, Spain) both qualitative and semiquantitative were employed to detect Toxoplasma antibody. Blood was also collected from normal healthy age matched control volunteers (n=63) for serological test for toxoplasmosis. Histological diagnosis of toxoplasmosis was made when the lymph node revealed minor disorganization of normal architecture with focal non-tubercular collection of epithelioid cells. Often these collections were also seen within the lymphoid follicles (Dorfan and Remington, 1973; Rosai, 1981).

A thorough relevant history was taken and clinical examinations were done on these 90 patients diagnosed as chronic non specifiic lymphadenitis or toxoplasmosis. Giemsa and Periodic acid-Schiff (PAS) stains of the lymph node sections were done in these cases to detect the organism *(T. gondii)*.

Repeat biopsy of lymph node was done from two patients histologically diagnosed as toxoplasmosis for animal inoculation.

Results and Observations :

Out of available 90 cases, 84 (93.33%) were chronic nonspecific lymphadenitis and six (6.67%) were diagnosed as toxo plasmosis. All of the patients with toxoplasmosis were males and within the age range of 19 to 30 years. Clinical manifestation of six cases of acquired glandular toxoplasmosis are given in Table I.

Duration of lymphadenopathy ranged from 6-10 weeks. All of the six (100%)

Table—I

Clinical manifestations of six cases of toxoplasmic lymphadenitis.

Clinical findings	No. of cases	Percentage (%)
Fever	4	66.66%
Malaise	4	66.66%
Weakness	4	66.66%
Myalgia	2	33.33%
Sorethroat	2	33.33%
Headache	1	16.66%
Weight loss	1	16.66%
Splenomegaly	1	16.66%
Hepatomegaly	1	16.66%

cases had posterior cervical lymphadenopathy. In addition, two (33.33%) cases had anterior cervical and axillary, two (33.33) axillary and supraclavicular and one (16.66%) axillary and anterior cervical and inguinal lymphadenopathies. Most of the patients (83.33%) had generalised lymphadenopathy. Out of six, four (66.66) cases had rubbery and two (33.33%) cases had firm enlarged lymph nodes. All of the six (100%) cases had mobile discrete enlarged lymph nodes. Four cases had tender and remaining two cases non tender enlarged lymph nodes. All of the patients of this group of toxoplasmosis gave the history of close contact with cats for several years.

Results of serological tests :

Fifty nine (70 24) cases were seropositive and 25 (29.76%) cases were seronegative out of 84 cases of chronic nonspecific lymphadenitis. In contrast, out of 63 healthy age matched volunteers 30 (47.62%) were seropositive. The difference between patient and control was statistically significant ($P < 0.01$).

All the six (100%) patients with acquired glandular toxoplasmosis showed strongly positive serological test results. The results of latex agglutination test titer of six patients with toxoplasmosis are shown in Table II.

Table—II

Results of the titer of latex agglutination test in six patients with toxoplasmosis.

Case No	Titer
1	1 ; 64
2	1 ; 64
3	1 ; 64
4	1 ; 64
5	1 ; 64
6	1 ; 32

Histopathological findings of six cases of toxoplasmosis :

The histopathological appearance of the lymph nodes in the present study was characterised by subacute to chronic lymphadenitis with well marked periadenities. In most of the cases, the nodal architecture was distorted by hyperplasia of lymphoid follicles and diffuse proliferation of epithelioid histiocytes. Many of the follicles were large and irregular in outline with active germinal centres. The germinal centres showed a large number of immunoblasts,

multiple cells in mitoses, scattered fragments of pyknotic nuclei and frequent macrophages containing nuclear debris (tingible bodies).

The contours of the germinal centres were blurred in some cases owing to the encroaching epithelioid histiocytes, isolated or in clustres. Moderate to large number of epithelioid histiocytes were found scattered throughout the crotex and paracortical areas some times invading the germinal centres. The epithelioid histiocytes were characterised by very conspicuous, pale staining cells with vesicular nuclei and copious, somewhat eosinophillic cytoplasm. The presence of these histocytic clustres gave a mottled appearance on low magnification. And it was the most distinctive histological feature observed in this series of glandular toxoplasmosis. Sinus histiocytosis was observed in most cases. Mild to moderate numbers of immunoblasts and plasma cells were seen throughout the pulp of the node specially in the medullary cords. Increased number of vessels (post-capillary venules) lined by high endothelium were also seen in most cases. In one case the nodal architecture was completely lost and the node was diffusely infiltrated with histiocytes (Fig 1).

Even with meticulous microscopic observations none of the sections stained with Giemsa and PAS were found to show any organism. Results of animal inoculation were also negative.

Discussion :

In our country, lymphadenopathy is an extremely common clinical condition. In many instances the aetiological diagnosis cannot be established even after repeated investigations. Some of these undiagnosed cases may be of toxoplasmic origin.

Fig—1. *Sections of a lymph node from a patient with acquired glandular toxoplasmosis. It shows reactive follicles with large germinal centres, sinus histiocytosis and mottled appearance due to clustres of epithelioid histiocytes.*

The frequency of toxoplasmosis in the present study was six (6.67%). Jones et al (1965) reported a similar (5-8%) frequency. All the patients were of the age group 19-30 years. These findings well agree with those of Krick and Remington (1978) and Argyle et al (1983). Argyle et al (1983) reported that when encountered by the physicians, the patient of toxoplasmosis is typically a young adult. All of the six patients were males. Remington et al (1960) reported that there is little or no difference in prevalence between the sexes in the United States. The possible explanation of the present finding of male preponderance may be due to the fact that in our country due to socioeconomic reasons females seek medical help relatively less frequently. Fever, malaise and weakness were the commonest symptoms. These were followed by myalgia and sore throat. All the six

cases of toxoplasmosis had posterior cervical lymphadenopathy. Gray et al (1972) also reported that the posterior cervical lymph nodes were most frequently and characteristically involved.

Due to lack of adequate awareness and variable clinical manifestations of acquired toxoplasmosis it is quite possible on the part of the physicians to miss the diagnosis.

A significant difference in seropositivity (both qualititive and semiquantitative) between patients of chronic nonspecific lymphadenitis and age matched healthy volunteers clearly indicate that some of this reactive lymphadenopathy may be of toxoplasmic origin. There must be a casual relationship between toxoplasmosis and the reactive lymphadenopathy observed in this study.

Gray et al (1972) reported that a characteristic pattern of sinus histiocytosis was seen in 17 out of 18 posterior cervical lymph-nodes and in only one of four nodes from other sites from patients with toxoplasmosis. So some of the cases of acquired glandular toxoplasmosis may be misdiagnosed as nonspecific reactive change if the biopsy is obtained from extracervical site. So whenever a diagnosis of toxoplasmosis is suspected clinically, posterior triangle (if involved) of the neck is the most desired site for lymph node biopsy.

The prevalence of seropositivity among the age matched healthy volunteers was 47.62%. It is relatively a high prevalence of past toxoplasma infection. Consumption of well-cooked meat is the usual practice in this country. So, probably cat is the principle source of infection. Obvious factors which contribute to this prevalence rate includes : i) A large domestic cat population that largely depends on rats, mice and birds (intermediate host of *T. gondii)* for food ; ii) Warm humid climates with heavy rainfall and dense shade producing foliage (all of which help to preserve the oocysts) ; iii) Life style and hygienic condition of the people in this country which is such that the people are easily exposed to oocysts of *T. gondii.* Bangladesh is a tropical country and in tropical countries, prevalence of toxoplasma infection is high (Wallace, 1976 ; Remington et al, 1960 ; Feldman and Miller, 1956. Darrell et al, 1964 ; Wallace, 1969 ; Stagno and Thierman, 1973).

There is no unanimity of opinion on the question of whether the histological picture is at all diagnostic of toxoplasmosis (Stansfeld, 1961). Some authors have reported that the lymph node changes are nonspecific or inconstant (Gard et al, 1951 ; Alexander and Callister, 1955). Out of six, five cases of toxoplasmosis of the present study were diagnosed histologically without the prior knowledge of detailed clinical history and serological findings. Subsequently, serological and clinical findings strongly supported the diagnosis of acute acquired toxoplasmosis. Only one case was histologically confused with lymphoma. Serological finding clinched the diagnosis as toxoplasmosis. It is clear, therefore, that the histological findings of acute acquired glandular toxoplasmosis are highly suggestive though not conclusive. At the same time, a high index of suspicion in the presence of appropriate clinical setting has to be entertrained to diagnose toxoplasmosis. Many authors support this view (Dorfan and Remington, 1973 ; Gray et al,

1972 ; Stansfeld, 1961 ; Stanton and Pinkarton, 1953 ; Putschar, 1973).

It can therefore, be concluded that acquired toxoplasmosis is not an uncommon cause of lymphadenopathy specially in young adults. It is an important differental diagnosis of lymphadenopathy specially of cervical origin. Conceivably cats are the principal source in the transmission in this country. Acquired toxoplasmosis demands informed awareness of its existence in this country among pathologists, physicians and general people.

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JUVENILE ANGIOFIBROMA–REVIEW OF 82 CASES

M N Amin, N Bhattacharjee

Key Words :

Angiofibroma, Nasopharyngeal fibroma, Nasopharyngeal angiofibroma, Vascular tumour of nose, nasopharynx.

Summary :

Juvenile angifibroma is not an uncommon clinical entity. An utmost care must be taken in examining a patient having recurrent epistaxis with a mass in the nose or nasopharynx. Casual attempt at removal of such a mass must be totally avoided. Doctors should have a comprehensive knowledge of this disease as this may end in fatality. The danger of this disease is severe bleeding which may occur due to injury during examination, attempt at biopsy without adequate precaution and incomplete removal. The most widely accepted method of treatment is surgery but it should be undertaken by an experienced surgeon in well-equiped centres with facilities for adequate blood transfusion and postoperative care.

For diagnosis one should rely more on clinical findings and simple investigations available rather than waiting for sophisticated investigations which may not be available, may be risky and costly as well.

Introduction :

Juvenile angiofibroma, an essentially benign non-infiltrating tumour of high vascularity (Holman and Miller, 1965) occuring in the nasopharynx and posterior aspect of nasal cavity, typically seen amongst the adolescent males, is not uncommon in this country too. It behaves like a locally malignant tumour because of its tendency to erode surrounding vital structures and tendency to reccur if not completely removed (Wilson et al, 1972).

The main presenting symptoms are nose bleeding, nasal obstruction, bulging in and around the face and/or eyes and occasionally dysphagia and earache and deafness. Besides these, nasal speech, headache, anosmia, pansinusitis, even blindness and death due to enlargement into the cranial cavity were reported (Wilson et at, 1972).

The major findings are smooth and pinkish grey to bright red lobulated tumour in the nasopharynx and/or nasal cavity usually non ulcerated unless traumatised. Occasionally the tumour is seen hanging in the oropharynx.

Materials and Methods :

Altogether 82 cases who were admitted in Chittagong Medical College Hospital, Dhaka Medical College Hospital and P.G. Hospital during the period from 1968-88 were studied. All were males, age between seven and 32 years coming from middle and poor socioeconomic class.

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Diagnosis was made mainly on the basis of clinical features and radiological examination of nasopharynx and paranasal sinuses. Carotid angiography was done in three cases. Preoperative histopathological examination from nasal mass was done in five cases and in seventy two cases histopathological confirmation was done postoperatively (Fig. 1, 2, 3).

Fig.—1. *X-ray Nasopharynx showing a homogeneous soft tissue shadow in the nasopharynx.*

All the cases were examined under general anaesthesia prior to definitive surgery to ascertain the origin and extension of the tumour and its nature.

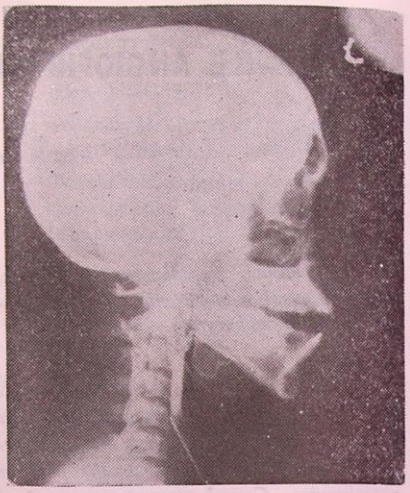

Fig.—2. *Carotid angiography showing increased vascularity in the region of the mass in the nasopharyux.*

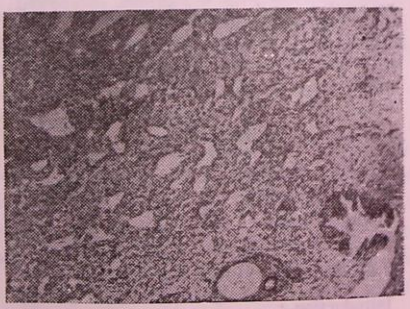

Fig.—3. *Photomicrograph showing many vascular spaces of varying shape and size amidst fibrous tissue stroma (H. E. stain. Maginfication IIOX).*

Tomogram, C.A.T. scan and hormone assay were not done as these were not available until recently and are relatively costly. Hormone assay was found not to be of much help (Hunter et al, 1963).

Besides, general ENT examination, physical examination, and laboratory studies cosisting of detailed routine examination. of blood, urinalysis and X-ray of chest were also done.

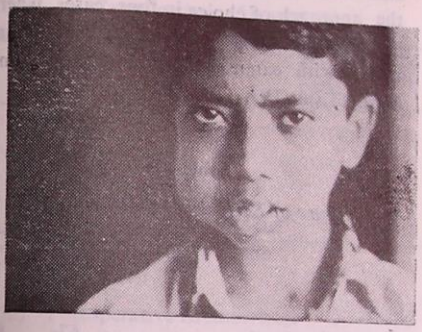

Fig.—4 *Photograph showing tumour extension into the right cheek and right arbit.*

Results :

Age and sex :

All 82 cases were male. Age incidence varied from Seven to 37 years with predominance in the seond decade (73%) (Table-I).

Site of origin :

In 42 out of 78 cases operated, the tumour originated from the roof of the nasopharynx and posterior margin of choana. In the remaining 36 (46%), the site of origin was the lateral wall of the nose with predominance of left lateral wall (Table II).

Table—I

Age wise distribution of Patients

Age	No. of patients	%
Below 10 years	2	2
11 — 20 years	60	73
21 — 30 years	17	21
31 — 40 years	3	4

Table—II

Site of origin of tumours (n=78)

	No. of patients	%
Nasopharyngeal roof and post erior margin of choana	42	54
Lateral wall of nose	36	46
Right—15		
Left —21		

Tumour extension :

Out of 82 cases, seven showed extension into the cheek, temporal region and orbit (fig. 1). Besides these, extension was found preoperatively into the sphenopalatine fossa. Most of the extranasal and extranasopharyngeal extensions were found in the cases where the site of origin was the lateral wall of the nose. In three cases tumour mass was seen hanging from naso-

pharynx into the oropharynx causing dysphagia. In none of the cases intracranial extension was found.

Treatment

Five out of 82 cases were given radio therapy as a method of primary treatment but the tumour regression was not upto the expectation. One of the cases was given preoperative radiotherapy to reduce the vascularity. Of these six cases four patients did not turn up for follow up after two to three months. So their fate is not known. Other two were operated and were surviving without recurrence till their last visit. In the remaining 76 cases surgery alone was done in 74 (90%) cases and in the other two surgery along with preoperative radiotherapy was the treatment chosen (Table—III).

Table—III

Nature of treatment given to the patients(n=78)

	No. of patients	%
Surgery alone	74	90
Surgery+Preoperative Radiotherapy	2	2
Surgery+Postoperative Radiotherapy	2	2
Radiotherapy only	4	5

In two cases postoperative radiotherapy was given as there was some doubt of complete removal of the tumour.

Surgical approach : Of the 78 cases undergoing surgical intervention transpalantal approach only was used in 67 (86%) as the tumour was mainly located in the nasopharynx and nose. In four cases sublabial approach in addition to transpalatal one was used for complete removal of the tumour extension from the cheek. In one case additional transantral approach was needed to remove the tumour extension from the orbit and ethmoid region. In two cases an extra incision over the temporal region was used in addition to transpalatal route to remove temporal extension and limited lateral rhinotomy was the approach of choice in four cases where the tumour was confined to the nasal cavity with extension to the sphenopalatine fossa (Table-IV).

Table—IV

Nature of Sugical approach (n=78)

	No. of patients	%
Transpalatal only	67	86
Transpalatal+Sublabial	4	5
Transpalatal+Transantral	1	1
Transpalatal+Temporal	2	3
Lateral Rhinotomy	4	5

In four cases external carotid ligation was done prior to the operative procedure without much benefit in respect of primary haemorrhage.

Blood transfusion was required in all the cases operated. The quantity ranged from 700-2100 ml.

Complications (Table V) : Highest incidence of complications recorded in this series was crusting with or without atrophic changes in the nasal cavity (41%) and majority of the patients recovered within the period of follow up indicating that the crusting was due to large cavity produced by the tumour removal. The patients were given treatment of douching and removal of crusts.

Table—V

Complications of treatment

		No. of patients	%
i)	Palatal perforation (irradiated-2) (non-irradiated-2)	4	5
ii)	Crusting with or without atrophic changes in the nasal cavity.	32	41
iii)	Postoperative haemorrhage Reactionary-2 Secondary-5	7	9
iv)	Nasal voice	5	6
v)	Recurrence	7	9
vi)	Unsightly facial scar	1	1
vii)	Death : Preoperative-1 Immediate postoperative-3	4	5

Postoperative haemorrhage both reactionary and secondary was recorded in seven cases (9%) but none ended in fatality as bleeding was controlled by packing.

Other complications recorded were palatal perforation in four cases out of which two were irradiated preoperatively. In two cases the gap closed automatically in course of time and the other two needed secondary repair. Five patients had nasal voice all of which recovered sufficiently subsequently. The cause of nasal voice was possibly due to bigger nasopharyngeal and nasal space and fibrosis of the soft palate causing restricted movement. Unsightly facial scar was seen in one case in whom lateral rhinotomy was done.

Seven patients reported with recurrence needing second time surgical intervention. The reason for recurrence might be incomplete removal. None of them reported after second operation.

Four patients died—one during operation and the other three during immediate postoperative period. Peroperative death was due to the exposure of the brain stem and injury during operative procedure. The rest three deaths occured in the postoperative room possibly due to respiratory obstruction caused by fall back of tongue and pushing of the soft palate by large pack. Premature removal of airway device might have also contributed to it. Definite cause of death could not be ascertained as postmortem examination was not done.

Though 42 patients reported for follow up within three years ; majority of them also were lost after two to three visits possibly because they were symptom free or due to economic condition and poor communication. Thirty five of them were seen free of recurrence till their last visit. Seven patients presented with recurrence within the three years of follow up requiring subsequent surgery. The follow up of

these seven patients was not possible after they were discharged from the hospital as they did not report for the purpose (Table-VI).

Table—VI

Follow up findings (n=78)

	No. of patients	%
Reported within three years of operation	42	51
No recurrence	34	43
Recurrence in the nose, naso-pharaynx and extranasal extension (requiring subsequent operation)	7	8
Palatal perforation-irradiated-2 non-irradiated-2	4	5

Discussion :

The 82 cases of this series are all male though incidence in females were reported (Holman and Miller, 1965). The age ranges from seven to 37 years with peak incidence in the second decade (73%). Contrary to the earlier belief that this tumour regresses when the patient approaches his mid twenties (Wilson et al, 1972) the present series shows that the tumour is active and progressive in some cases even after 30 years of age. The findings conforms with those of Neel et al, (1973).

In arriving at a diagnosis the common methods such as clinical findings and plain X-ray of nasopharynx and paranasal sinuses were depended upon mainly, since these are by far the most reliable and relatively safe methods of investigation. According to Holman and Miller. (1965) the characteristic findings of angiofibromas are the anterior bowing of the posterior wall of the maxillary sinus, enlargement of the surperior orbital fissure and bone erosion of the adjacent structures. Unilateral external carotid angiography was done in three cases where the abundance of vascularity and rapid intake of dye indicated the vascular nature of the tumour though it did hot indicate the total vascularity as the tumour may get blood supply from other carotid artery and system. Although angiography is a quite useful means in detecting the residual tumour and determining the extent of the tumour yet they are not without risk, as there are reports of death, permanent transverse myelitis and transient hemiplegia (Neel et al, 1973). The roentgenographic features are so characteristic that only in unusual circumstances would angiography be necessary (Holman and Miller, 1965). We are in full agreement with Neel et al (1973) that if after physical examination and roentgenographic studies doubt remains about the diagnosis, the patient be examined under general anaesthesia and biopsy should be done if there is still doubt before the definitive surgery (Neel et al, 1973) keeping in mind the risk of haemorrhage in doing the biopsy.

Contrary to the statement (Hazarika et al, 1985) that the angiofiborma arises exclusively from the nasopharynx, we found 36 (46%) out of 78 tumours arising from the lateral wall of the nose and not from the nasopharynx and surprisingly most of the extranasal and extranasopharyngeal extensions were found in the extranasopharyngeal group. In three cases the tumour

was seen hanging into the oropharynx while they arose from the nasopharynx.

Extranasopharyngeal origin of the tumour were also described earlier (Holman and Miller, 1965 ; Wilson et al. 1972 ; Neel et al, 1973). Seven out of 82 cases showed external signs of extension into the cheek, temporal region and orbit but none had intracranial extensions. The patient who died during operation was found to have brainstem exposed by bone destruction either due to origin of the tumour from the periosteum overlying the bones arising from the embryonal plate or due to tumour extension (Wilson et al, 1972).

Treatment of angiofibroma passed through a lot of trials and errors. Ultimately surgery proved to be the best method of treatment. Radiotherapy (Wilson et al, 1972) and hormone therapy (Wilson et al, 1972 ; Chatterjee et al, 1985) are being used as primary choice of treatment and adjunct therapy claiming variable success in some centres. The present series shows that radiotherapy as a primary method is not effective in the total regression of the tumour. Hormones were not tried in any of the cases.

Vast majority of cases in this series received surgical treatment (78 out of 82). Seventy four of them had surgery alone while two were given preoperative radiotherapy and two got postoperative radiotherapy. Only four cases were given radiotherapy alone. The eight patients who got radiotherapy as primary treatment did not show satisfactory tumour regression. On the contrary the two patients who underwent surgery subsequent to radiotherapy developed palatal gap requiring secondary repair. Though eight different appoaches were described and practised to expose the nasopharynx (Neel et al, 1973). nose and different places of extension of the angiofibroma yet many could not stand the test of time like others. Different surgeons favoured different approaches and advocated their ones to be the best.

The choice of a particular approach by a surgeon depends on his familiarity, his experience, tumour extension and satisfactory tumour removal which is the ultimate aim of surgery. In the present series transpalatal route was chosen in majority of the cases. The extension into the sphenopalatine fossa could be removed in majority of the cases transpalatally though doubt has been expressed by some about the adequacy of this route for removal of extension and large sized tumour by this approach. The approach was found to be adequate in getting to the tumour and removing it along with the extension into the sphenopalatine region. The tumour could be removed quickly, minimising blood loss and tissue injury and also avoiding any external scar, though this findings appear to be contray to Cocke (1964) who believes that this approach would be impractical for any tumour larger than 5 cm.

Limited lateral rhinotomy was used in four cases where the tumour was essentially intranasal with or without extension. The approach was quite adequate but it took longer time to go round the tumour and to remove it causing more blood loss and tissue injury. Unfortunately one patient later developed unsightly facial scar too.

Blood replacement in the surgery of angiofibroma is the commonest requirement but the quantity varies from patient to patient and centre to centre also. All of our patients needed blood transfusion ranging from 700-2100 ml and majority of them required 1000-1400 ml whereas some of the cases reviewed by Neel et al (1973) needed much higher of quantity blood replacemcnt in some. We had to restrict blood transfusion to a minimum while ensuring patients safety due to less availability and cost of blood. Quick removal of the tumour helps much in minimising the blood loss and hence minimising the need of transfusion.

Complications are the known hazards of surgery. We did not find exception to this. Majority of the complications in this series were minor in nature and some patients became symptom free within few weeks and others accepted the complication. The preoperative death can only be avoided if one is aware of exposure of the brainstem by the tumour. The postoperative deaths were unexpected and can be avoided by better postoperative care with the help of specially trained nurses.

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FINE NEEDLE ASPIRATION CYTOLOGY OF PALPABLE LUMPS : ITS CORRELATION WITH CLINICAL DIAGNOSIS

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Key words :

Fine needle aspiration cytology (FNAC), Palpable lump, clinical correlation,

Summary :

Sixty one patients, 43 male and 18 female of various age ranging from seven to 70 years with palpable lump at different sites were studied by Fine needle aspiration cytology (FNAC). The clinical diagnoses were correlated with FNAC diagnosis. Thirty three out of 38 cases of lymph node, FNAC diagnoses were consistent with clinical diagnosis (86%). In all six cases of breast lump, clinical diagnoses were consistent with cytological diagnoses. Out of 12 cases of skin and subcutaneous nodule, the clinical disagnoses were consistent with FNAC in nine cases (75%). In 17 cases histopathological study were done and correlated with clinical and FNAC diagnosis. In three cases (76.5%) the clinical, FNAC and histopathological diagnoses were consistent.

FNAC was found to be a safe, simple and reliable as well as a cost effective diagnostic procedure which can be used as screening test in routine clinical practice prior to doing a biopsy.

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Introduction :

Palpable lump often creates a diagnostic problem for the clinician. Various indirect method of investgations like radiology, laboratory chemistry, ultrasonography and scanning are used for the diagnosis of lump but none of these give any definitive clue to the nature of the lump. The conventional method of arriving at a definite diagnosis of such lump in our country still rests on exicisional or incisional biopsy and its histopathological examination. Though this gives the direct diagnosis in most of the cases, it requires preoperative preparation, anaesthesia, and sometimes hospitalisation. Further, it is time consuming and involves more costs. Considering the difficulties, a simple but reliable diagnostic technique is felt essential. In this respect fine needle aspiration cytology (FNAC) merits attention.

FNAC is a relatively new but well established technique for the diagnosis of tumour (Lever et al, 1985). It is simple, safe, time saving and cost effective requiring no local anaesthesia even. It is being routinely practised in various centres of Europe

and America (Godwin, 1956, Zajicek, 1965) But in our country the value of this single diagnostic technique remains unexplored except in some sporadic studies (Ahmed, 1981; Quasem, 1986).

The purpose of this study is to evaluate the FNAC in the clinical diagnosis of various palpable lumps.

Materials and Methods :

Sixty one cases of palpable lump encountered in consultation of the authors and in a medical unit of Rajshahi Medical College Hospital during the period of August, 1988 to May, 1989 were included in the study. The patients of all ages and sex were included. In each case a thorough clinical examination was done with a view to arrive at a clinical diagnosis. Then all the patients were submitted to FNAC without prior clinical information.

Aspiration technique was followed according to Esposti et al (1968). Smears were stained according to Papanicolaou method (cited by Durfee, 1968). Finally the clinical diagnoses were compared with the FNAC diagnosis. Some selected cases were subjected to histopathological examination.

Results :

Sixty one patients, 43 male and 18 female of various ages ranging from seven to 70 years with palpable lump at different sites were studied by FNAC. Table I shows the different sites from which aspirations were done. The most common sites were lymph node followed by skin and subcutaneou nodule.

Table II shows the correlation of clinical and cytological diagnosis of 38 cases of palpable lymph nodes. The clinical diagnoses were consistent with FNAC diagnoses in 33 cases (86%). Of the 14 cases of clinically diagnosed tubercular lymphadenitis, one was suggested as a case of Hodgkin's disease by FNAC and advised histopathology for confirmation. But as the patient responded to antibiotic, he is being followed up. Of the 10 cases of clinically diagnosed metastatic deposit, one was subsequently diagnosed as lymphoma by FNAC and ultimately proved to be poorly differentiated lymphocytic lymphoma (PDLL) by histopathology. One of the 10 cases of clinical lymphoma could not be diagnosed by FNAC due to unsatisfactory smear ; but ultimately proved to be a case of PDLL by histopathology. Two cases out of four clinically diagnosed nonspecific lymphadenitis was diagnosed as tubercular lymphadenitis by FNAC, which was also subsequently suggested to be tubercular by highly positive tuberculin test and the patient responded well to antitubercular drugs.

Table—I

Distribution of sites of aspiration.

Sites of aspiration	No. of cases
a) Lymph node	38
b) Breast	6
c) Thyroid	1
d) Liver	2
e) Skin & soft tissue nodule	12
f) Testes (epididymis)	1
g) Abdominal lump	1
Total	61

Table—II

Correlation of clinical and cytological diagnosis of 38 cases of lymphnode.

Clinical diagnosis	No. of pts.	Cytological diagnosis						
		TBL	Lymp	Metas	NSLA	inconclusive	Cons	Incons
TB Lymphadenitis	14	13	1	—	—	—	13	1
Metastatic	10	—	1	9	—	—	9	1
Lymphoma	10	—	9	—	—	1	9	1
NSLA	4	2	—	—	2	—	2	2
Total	38	15	11	9	2	1	33	5

TB L : Tubercular Lymphadenitis, Lymp : Lymphoma, Metas : Metastatic, NSLA : Nonspecific lymphadenitis, cons : consistent, incons : inconsistent. (consistent or inconsistent with the clinical diagnosis).

Table III shows the correlation of clinical and cytological diagnosis of six cases of breast lump, Of the three cases of clinical firoadenoma, one case was diagnosed as fibrocystic disease by FNAC. Amongst the three cases of clinical carcinoma of breast, all were diagnosed as duct cell carcinoma by FNAC and were proved to be as such by histopathology.

Table IV shows correlation of clinical and cytological diagnosis of 12 cases of skin and soft tissue nodules. In this group almost all FNAC diagnoses were consistent with clinical diagnoses except three. Out of five clinical metastatic deposits, one was diagnosed as lymphoma by FNAC and was subsequently proved as PDLL by histopathology. Another one with clinical

Table—III

Correlation of clinical and cytological diagnosis in six cases of breast lump.

Clinical diagnosis	No. of cases	cytological diagn.		Consistent	Inconsistent
		Benign	Malignant		
Fibro-adenoma	3	3	—	3	—
Malignancy	3	—	3	3	—
Total	6	3	3	6	

Table—IV

Correlation of clinical and cytological diagn. of 12 skin and soft tissue nodule

Clinical diagnosis	No. of cases	Cytological diagnosis granulo	lymp	metas	NSLA	other	Consistent	Inconsistent
Tuberculous lesion	2	2	—	—	—	—	2	—
Lymphomatous deposit	1	—	1	—	—	—	1	—
Metastatic deposit	5	—	1	3	—	1 (xan)	3	2
Benign growth	1	—	—	—	—	1 (lipo)	1	—
Primary carcinoma (sq.c.ca)	1	—	—	—	—	1 (sq.c.ca)	1	—
NSLA	2	1	—	—	1	—	1	1
Total	12						9	3

granulo: granulomatous, lymp: lymphoma, metas: metastatic, NSLA: nonspecific lymphadinitis sq. c. ca: squamous cell carcinoma, xan : xanthoma, lipo : lipoma.

diagnosis of carcinoma liver having multiple subcutaneous nodule was suspected clinically to be metastatic deposit in the skin. But FNAC suggested it to be a xanthoma. The patient died before histopathological evaluation. Of the two cases of clinically diagnosed nonspecific inflammatory lesions one was diagnosed as granulomatous inflammation by FNAC, which also finally responded to antitubercular therapy.

Table V shows the correlation of clinical and cytological diagnoses of five cases of lump other than lymph node, breast, skin and soft tissue nodule. This table shows that one diffuse abdominal lump which could not be diagnosed clinically, FNAC suggested it to be a case of mesothelioma but was histopathologically diagnosed as metastatic adenocarcinoma. One testicular swelling which was thought to be chronic epididymitis clinically, was diagnosed as granulomatous inflammation by FNAC and the patient responded to antitubercular drug.

Histopathology was done in 17 out of 61 cases, and table VI shows their clinical and FNAC diagnoses. In 13 cases the clinical diagnoses were consistent with both FNAC and histopathological diagnoses. FNAC diagnoses were consistent with histopathological diagnoses in 16 cases.

Discussion :

FNAC is a simple, safe diagnostic procedure now being routinely practised in various countries (Godwin, 1956; Zajicek, 1965). It is not widely used in our country. We have undertaken this procedure to arrive at diagnoses of various palpable lumps. In

Table—V

Correlation of clinical and cytological diagnosis of five cases of palpable lump other than lymph node, breast, skin and soft tissue nodule.

Sites of aspiration	Clinical diagnosis	Cytological diagnosis benign	malignant	Consistent	Inconsistent
Thyroid nodule	cold nodule (1)	—	1	—	1
Liver	Ca-liver (2)	—	2	2	1
Abdominal lump	No diagn. (1)	1	—	?	?
Testicular swelling (epididymis)	chr. epididy-(1) mitis	1	—	1	—

Table—VI

Clinical/FNAC/Histopathological diagnosis in 17 cases

Clinical diagnosis		Cytological diagnosis						Histopathological diagnosis					
		TBL	MC	NHL	HD	Pr. ca	other	TBL	MC	NHL	HD	Pr. ca	other
TB lymphadenitis	(2)	2	—	—	—	—	—	2	—	—	—	—	—
Metastatic	(4)	—	2	2	—	—	—	—	2	2	—	—	—
Lymphoma	(8)	—	—	6	2	—	—	—	—	7	1	—	—
Primary carcinoma	(1)	—	—	—	—	1	—	—	—	—	—	1	—
Other	(2)	—	—	—	—	1	1	—	1	—	—	1	—

TBL : Tubercular lymphadenitis, NC : Metastatic carcinoma, NHL : NonHodgkin's lymphoma, HD : Hodgkin's disease, Pr. ca : Primary carcinoma.

our series of 61 cases, maximum aspirations were obtained from palpable lymph nodes as the study was carried out by physicians. If the surgeons would have been involved in the study, more palpable lumps other than lymph node might have been included in the study.

In our series of 38 cases of lympadenopathy, the clinical diagnoses were consistent with FNAC in 33 cases (86%). Where clinical diagnosis and FNAC diagnosis did not agree, further diagnostic evaluation including histopathology, Mantoux test and therapeutic trial in some cases supported

the FNAC diagnosis leading to accuracy of FNAC diagnosis to 95%. The diagnostic accuracy of FNAC in the diagnosis of lymphadenopathy had variously been cited by many investigators. Gupta et al showed 94.5% accuracy (Gupta et al, 1975) and Luqman and Jafary showed 93.2% accuracy (Luqman and Jafary, 1980).

In all the six cases of breast lump, clinical diagnosis correlated with cytological diagnosis. The number of cases are small and the patients were referred to surgeons and none of the patients returned back for follow up. So a histopathological correlation could not be ascertained. Therefore, a diagnostic accuracy could not be drawn from this data. The accuracy of needle aspiration of breast masses has been reported to be above 80% in the literature (Friedman et al, 1983). It is also acknowledged that the microscopic interpretation is difficult in fibroadenoma and fibrocystic diseases on smears with high cellularity and moderate pleomorphic changes which also happened in two of our cases (Friedman et al, 1983).

In 12 cases of skin and soft tissue nodule, clinical diagnoses was cosistent with FNAC diagnoses in 75% cases. The over all accuracy of FNAC of various soft tissuse masses from head and neck was shown to be 94.5% (Young et al, 1981) and 92.9% (Bresson et al, 1976). But their correlation of FNAC diagnosis was done with histopathological examination and ours with clinical diagnosis.

Aspiration cytology was also done in a few cases of thyroid nodule, liver, abdominal lump, testicular swelling et cetera where clinical diagnoses and FNAC diagnoses were consistent in all cases except one from thyroid nodule. Study involving large number of cases with histopathological examination is needed to evaluate the accuracy of FNAC in the diagnosis of such organ related lump. Frable WJ (1983) in a review advocated FNAC in the diagnosis of various organs like thyroid, salivary gland, lung and mediastinal masses, intra-abdominal masses including liver, pelvic organs like prostate, testes et cetera and the accuracy rate cited by various workers are also encouraging.

Only in 17 out of 61 cases histopathology was done in our series. In this small series of 17 cases, in 15 FNAC diagnoses were consistent with histopathological diagnoses. One of the cases of Hodgkin's disease diagnosed by FNAC was susequently diagnosed as PDLL by histopathology. It is evident from the observations that FNAC is sufficient to diagnose a case to be 'Lymphoma'; but prior to therapy all lymphoma cases should be classified by histopathology.

This series also reveals that in 13 out of 17 cases, the clinical diagnosis agreed with FNAC diagnosis which was also confirmed by histopathological examination in all the cases. This proves the value of FNAC in the diagnosis of various palpable lumps. Where a clinical diagnosis coincides with FNAC diagnosis, further histopathological examination which is costly, time consuming and hazardous, may be withheld. Inconclusive cases should only be evaluated by histopathology. In glandular organs (thyroid, breast, prostate and salivary gland) and lymph nodes the ratio of benign to malignant tumour varies between 3 : 1 to 10 : 1 (Friedman et al, 1983). Excision of such large number of benign lesions which could be otherwise managed by conservative means, can frequently be avoided.

In doing an aspiration complications associated with peripheral lesions are minimal (Hamaker et al, 1983). They are of the same magnitude and frequency, as one encounters in venipuncture. Prolonged bleeding and local haematomas and infections may occasionally be seen. In our series we did not encounter any of such complications. However, caution should be taken to perform needle aspiration from deep seated organs to avoid injury to other associated organs. The apprehension of implantation by needle aspiration can be avoided by using a fine needle with fewer attempts. The chance of implantation is less in superficial lesion than in deep seated lesion.

From the experience gathered from this small series of study it can be concluded that FNAC is simple, safe and reliable as well as a cost effective diagnostic procedure which can be used as screening test prior to biopsy. It can be practised even in out patient departments.

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DUODENAL INUURIES : PERSONAL EXPERIENCE

Margub Hussain

Key words :

Duodenum, Injury.

Summary :

Twelve cases of duodenal injury were treated in one of the casualty units of Dhaka Medical College Hospital from May, 1983 to March, 1988. They comprised only 4% of the total abdominal injuries encountered in this unit. Young males of third and fourth decade were commonly affectcd, stabbing being the most common cause. Three of these patients died due to exsanguination and sepsis. Early diagnosis and different operative procedures have been discussed.

Introduction :

Duodenum is a well-protected organ as it is placed deep in the abdominal cavity. Only 3-5% of the patients sustaining abdominal trauma will have involvement of duodenum (Kelly 1978; Morton 1968). Trauma to the duodenum whether from a blunt or a penetrating force, are frequently associated with injury to the vital structures like kidney, liver, gall bladder, common bile duct (CBD), pancreatic duct, inferior vena cava, aorta and superior mesenteric vessels, the structures closely related to duodenum. The marginal blood supply of this organ, proximity of vital structures, difficulty and delay in diagnosis, poor healing with high incidence of post-operative fistulae and other complications make the management of duodenal injury difficult and challenging to the trauma surgeons. Continued efforts in the improvement of surgical techniques, better understanding of the problems in pancreatico-duodenal injuries and earlier diagnosis has reduced the mortality and complications in recent years. Surgeons now have chosen any one from among the several operative procedures from debriedment and simple closure to pancreaticoduodenectomy. But on the whole there is a trend towards conservatism.

The purpose of this paper is to communicate our experience in the management of duodenal injuries in one of the casualty units of Dhaka Medical College Hospital.

Materials and Methods :

From May, 1983 to March, 1988, 12 Patients were treated for duodenal injuries of various types in one of the casualty units of Dhaka Medical College Hospital. Hospital records were reviewed carefully for the nature of injuries, pre-operative symptoms and signs, diagnosis, operative management, post-operative course and results.

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Observations and Results :

Analysis of the records revealed 311 admissions for abdominal injuries from May, 1983 to March, 1988. These include both penetrating and blunt abdominal trauma. Surgical intervention deemed necessary in 299 cases. Amongst these, 12 patients were found with duodenal injuries. There was only one female. Their age ranged from 17 to 60 years with a mean of 32·5± 13.2. By far the young males between 21-40 were commonly affected (Table-I).

Type of injury :

Excepting a single case admitted with blunt trauma following a road traffic accident (RTA) all sustained penetrating injuries. Distribution of different types of injuries is shown in Table-II.

Table-I

Showing incidence and age and sex wise distribution of duodenal injury patients.

		Type of injuries		
		Penetrating	Blunt	Total
A. INCIDENCE	Admission	233	78	311
	Exploration	227	72	299
	Duodenal Injury	11 (4.84%)	1 (1.4)	12 (4%)
B. Sex (n-12)	Male	10	1	11
	Female	1	0	1
C. Age (n-12)	Below 20	1		
	20— 40	8		
	41— 60	3		

Table—II

Showing distribution of patients according to type of injury

Type of Injury	No. of Patients (n=12)
Penetrating	
Stab	10
Bullet	1
Blunt	
RTA	1

Indications for operation :

It is a usual surgical practice to explore all the penetrating injuries. Surgical intervention was done within six hours of admission. Initial assessment of the patients and their resuscitations were done as demanded by the clinical status. In penetrating injury cases there were hypovolumic shock in eight patients and signs of peritonitis in three. The patient admitted with blunt trauma, was in shock on admission and

thought to be due to splenic rupture but exploration revealed duodenal repture in addition to splenic rupture. Diagnosis of duodenal injury could not be made in any of the cases pre-operatively.

Operative findings :

A duodenal injury was suspected during operation by bile staining and free flow of bile, and also by the presence of peri-duodenal haematoma. Complete exploration of duodenum was done when a posterior injury was suspected by Kocher's mano-euver. Ligament of Treitz was divided in one who had injury to the fourth part of duodenum.

Site of injury : Peroperative findings of 12 cases of duodenal injury are summarized in table-III. The second part of duodenum was most commonly affected. Of the eight injuries involving second part, one was due to blunt trauma following RTA. First part was penetrated in three and fourth part in one.

Table—III

Showing site and type of duodenal injuries (n-12).

Site	type of injury			Total
	Stab	Gunshot	RTA	
First part	3	0	0	3
Second ,,	6	1	1	8
Third ,,	0	0	0	0
Fourth ,,	1	0	0	1

Associated injuries : Only three of the 12 patients had isolated duodenal injury, remaining nine cases had associated injuries of the surrounding organs. Four pancreatic injuries were uncovered during exploration. Liver injury was found in three and right kidney injury also in three (Table-IV).

Operative Procedure :

Simple closure of the defect without decompressive procedure was performed in

Table—IV

Showing site of assocniated injuries

	Case No.											
	1	2	3	4	5	6	7	8	9	10	11	12
Organ Injury :												
Liver				+			+		+			+
Pancreas				+		+		+		+		
Stomach								+				
Kidney (Rt)						+			+		+	
Colon	+											
Spleen											+	
Major vassels				+								
Chest									+		+	

eight cases. Wedge resection of the lacerated segment was done in one patient. Remaining three patients required decompression because of laceration and associated injuries. Two-tube gastrostomy was done in one who had involvement of pancreas and common bile duct; feeding jejunostomy was performed in one case of pancreatic injury; and gastrojejunostomy in the patient with a long segment injury and in which a duodenal obstruction was suspected (Table V and VI). Nasogastric suction was continued for three to five days post-operatively.

Table—V

Showing indications of operation

Presentation and Indication	No of cases (n=12)
Penetrating Abdominal Injury	
With Shock	7
With Peritonitis	4
Blunt abdominal injury	
With Shock	1

Table—VI

Showing different operations done on the patients

Operative Procedure	No. of patients
Repair	8
Resection and anastomosis	1
Repair and decompression	3
Total	12

Complications and Mortality:

Three patients (25%) died of which two deaths were due to exsanguination. The first patient admitted with a stab wound, had injuries involving the second part of duodenum, head of the pancreas, CBD, pancreatico-duodenal artery and the portal vein. This patient died on the table. The second case was a victim of RTA and had ruptured spleen and right chest injury in addition and could not be recovered from post-operative shock. The third death occured two weeks after operation. The patient, a female of 27 was admitted with pancreatic and kidney injuries, developed pancreatic fistula and uncontrollable sepsis.

One patient had reactionary haemorrhage from liver injury site and was re-explored. Four other patients developed wound infection (Table-VII).

Table—VII

Showing different causes of death and the complicuations encountered.

Cause of Death :	No. of cases
Exsanguination	2
Sepsis and Fistulae	1
Complications :	
Haemorrhage	1
Wound infection	4

Discussion :

Duodenal injuries are fortunately uncommon. It represents only 3.5% of all abdominal traumas as reported by Kelly et

al in 1978. In the present series incidence is almost similar and is only 4% of all abdominal injury cases admitted in the unit. Mortality and morbidity from duodonal injury are alarmingly high. Mortality rate has decreased from 80% (Webb, 1958) to 10-20% in recent years (Kelly, 1978 ; Snyder, 1980). But mortality upto 29% has been reported (Ivatury, 1985). In this series mortality stands to 25%. All deaths here were due to associated injuries.

The tremendous improvement in survival is a result of earlier diagnosis and also some recent advances in the surgical management. Diagnosis in blunt abdominal trauma is difficult and is almost always delayed, so the likelihood of post-operative complications increases. Lucas and Ledgerwood (1975) reported an increase inmortality from 11% to 40% in patients who had repair of their injury 24 hours or more after the trauma. Donovan (1966) and Fullen (1974) has reported 50% increase in mortality rate when the delay was more than 24 hours. Early diagnosis and operative intervention is essential to avoid mortality and morbidity.

Early diagnosis requires high index of suspicion. Shock would usually be absent when there is isolated duodenal injury. None of the three patients with duodenal injury had shock preoperatively. A negative peritoneal lavage only excludes a haemoperitoneum and may miss a significant retroperitoneal trauma to duodenum. Telbot et al (1975) reported a series of eight patients of retroperitoneal duodenal injury from blunt trauma in which five were not readily identified as having duodenal injury. They found that frequent physical examination was the most reliable diagnostic means. Fabian et al (1984) has suggested that even vague and non specific findings of tenderness and absent bowel sound should alert the surgeon to the possibility of a duodenal injury and a gastrograffin study should be done immediately.

Laboratory investigations cannot be relied upon for early diagnosis. Leukocyte count will rise with a shift to the left only when retroperitoneal irritation proceeds. Snyder et al (1980) observed a WBC count greater than 10,000/cmm in 17 out of 18 patients with blunt duodonal injury. Serum amylase rise is less predictable. Only 50% may have high value. Lucas (1977) suggests a rise after six hours of admission in any patient, who has even mildest abdominal tenderness followlng blunt trauma, is significant and is advisable laparotomy.

Plain X-ray abdomen may show retroperitoneal air bubble in 20-40% cases. Scoliosis may be present in some cases. The current standard for determination of duodenal perforation following blunt trauma is the water soluble contrast swallow done with the patient in right lateral position (Levison, 1984).

The choice of surgical rapair varies. Most clinicians are of the opinion that the method of repair must be tailored to fit individual cases and that there can be no failproof formula that fits all duodenal injury cases (Adkins et al, 1985).

Intramural haematomas are least lethal, and may occur even after minor traumas. Many a time diagnosis is made at laparotomy. While Fullen et al (1974) suggests

non-operative treatment, others advocate evacuation of all haematomas for fear of necrosis and perforation and also late scarring of organised haematomas resulting in stricture and obstruction. Vellacot (1980) has shown that with nasogastric suction and I/V nutrition most haematomas will resolve over one to three weeks. If obstruction persists, operative intervention consisting of evacuation of haematoma and serosal closure is performed.

Most penetrating injuries, about 60-80%, specially those resulting from knife and low velocity missiles can be managed by simple debriedement and two layer closure of duodenal wall. Eight out of twelve patients in this series had simple closure of injury site.

Additional decompressive procedure or jejunal serosal patch are sometimes useful. In cases of duodenal transection and many moderately severe injuries segmental duodenal resection has been advised. Repair is accompanied by various decompressive measures as decided by the surgeon. Three patients of this series required decompression because of associated vascular and pancreatic injury.

Complex duodenal injuries and injuries involving both duodenum and pancreas are best treated by pyloric exclusion and duodenal diverticulization. In case of severe injuries that involves pancreatic ampullary region and CBD, Whipple procedure has been recommended. Duodenal injuries are usually drained. All patients in this series were drained. But Stone and Fabian (1979) could show that drainage may not be necessray in selected cases.

Morbidity following duodenal injury including fistula formation, dehiscence or obstruction occrs in seven to 12% of cases (Corely, 1975; Kelly, 1978). Stone and Fabian (1979) reported a duodenal complication in only 3.3% of cases. In our series about 40% had complication including minor wound infection.

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INTESTINAL TUBERCULOSIS IN BANGLADESH STUDY OF 43 CASES

H M A Rouf

Key words :
Tuberculosis, Intestine, Obstruction.

Summary :

Forty three cases of intestinal tuberculosis treated in five years (August, 1983 to July, 1988) were studied retrospectively to determine the clinical presentation, errors in diagnosis and usefulness of investigative procedures. Presentation was heterogenous. Peak age incidence was between 21 to 30 years (50%). Both sexes were almost equally affected (M : F=21 : 22). Sixteen cases presented with acute surgical emergencies, 12 of which were with obstruction (28%) and rest 27 with chronic symptoms. Radiological diagnostic errors were high. Forty patients were operated upon and antituberculous chemotherapy was applied in all of them.

Introduction :

It is known for about 2000 years that tuberclosis can affect intestine. Hippocrates propounded the aphorism that diarrhoea attacking a person affected with pthysis is a mortal symptom (quoted from Tubercle, 1982). After the classical description of of regional enteritis by Crohn, Ginsberg and Oppenheimer (Crohn et al, 1932), doubt was cast regarding the existence of hypertrophic ileocaecal tuberculosis. Some authors started to term all cicatrizing lesions of ileocaecal region as Crohn's disease (Mangalik and Misra, 1952 ; Gupta et al, 1962). Similarity between these two conditions are the cause of many mistaken diagnosis (Shukla and Hughes, 1978) and it is reflected in the report by research committee of the British Thoracic and Tuberculosis Association (Research Committee report, 1971). However, the works of Hoon et al (1950) and Prakash et al (1978) tried to make a clear distinction between the two conditions. Recently a species of mycobacteria, *M. paratuberculosis* has been isolated from patients of Crohn's disease, which has raised the proposition that in future regional enteritis may be looked upon as a variant of intestinal tuberculosis (Chiodini et al, 1984).

First work on intestinal tuberculosis done in Bengal was by Tribedi and Gupta in 1941. In 1942 Ukil found 50% of all the postmortem cases to have gastrointestinal tuberculosis. Bhansali et al (1968) has shown that 0.8% of hospital admissions, 3.4-11% of small gut obstructions and 5.7% of all perforations of Delhi hospitals were due to intestinal tuberculosis. This study attampts to analyse a series of Bangladeshi

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patients with intestinal tuberculosis and discusses the various clinicopathological presentations, errors in diagnosis and usefulness of investigations.

Materials and Methods :

All patients with intestinal tuberculosis admitted to General Hospital, Sirajganj between August, 1983 to July, 1988 were included in this study. This is a retrospective analysis. Twenty seven cases presented with chronic symptoms and 16 with acute surgical emergencies. Investigations included routine blood examination, urinalysis and radiological investigations. Radiological investigations consisted of X-ray chest, barium studies of small and large gut and plain X-ray abdomen. Tuberculin test was done in some cases. Specimens were examined morphologically and materials were taken from the bowel and mesenteric nodes for histopathological examinations.

Results :

Age and sex incidence :

Male and female ratio in this series was 21:22 and general population census ratio of male and female in this country is 106 : 94. Table-I shows the age and sex distribution of the affected patients.

Table—I

Age and sex wise distribution of the patients

Age in years	0-20	21-30	31-40	41-50	51-above
Male	2	12	4	1	2
Female	4	10	2	1	5

Presentation :

Sixteen (37.2%) cases presented with acute abdominal emergencies and 27(62.8%) presented with chronic symptom. Table II shows the mode of presentation pnesenting as acute emergencies.

Table—II

Mode of Presentation of cases presenting as acute emergencies

Mode of Presentation	No. of cases
Obstruction	12
Perforation (obwel)	3
As acute appendicitis	1
Total	16

Intestinal tuberculosis was diagnosed peroperatively in these cases and later confirmed by pathological investigations including tuberculin test, ESR, total and differential leucocyte count and histopathological examinations. Patients with chronic illness presented with multiple symptoms. Table III shows the list of symptoms presented by them.

Table—III

Symptoms presented by patients (n=27) with chronic abdominal complaints

Symptoms	No. of cases
Abdominal pain	26
Weight loss	26
Features of subacute obstruction	12
Tenderness in rt. iliac fossa	20
Mass in the rt. iliac fossa	19
Mass in the umbilical region	1
Mass in the lt. iliac fossa	1
Diarrhoea alternating with constipation	12
Diarrhoea	10
Constipation	5
Tuberculous toxaemia (low grade fever, anorexia, malaise)	26
Lymphadenopathy	1
Pallor and weakness	25

Clinical Diagnosis :

Initial clinical diagnosis was correct in 16 (60%) of the chronic cases. Diagnosis was erroneous in 40% patients. Table IV shows the list of clinical diagnosis.

Table—IV

Initial clinical diagnosis of the patients of intestinal tuberculosis.

Clinical diagnosis	No. of cases
Ileocaecal tuberculosis	16 (60%)
Corcinoma of caecum	4 (15%)
Regional ileitis	2 (7.5%)
Appendicular lump	2 (7.5%)
Corcinoma of colon (ascending colon-1, transverse colon-1, descending colon-1)	3 (10%)

Investigations :

Investigations included routine blood picture, tuberculin test, chest X-ray and barium studies of small gut and large gut. In some cases histopathology of excised tissue and lymph nodes were done. Tuberculin test was done in 26 out of 43 cases (table V).

Table—V

Results of tuberculin tests (n=26)

Test	No. of cases
Tuberculin positive	23 (88.5%)
Tuberculin negative	3 (11.5%)

Chest X-ray :

This was done in 30 case. Ten (33.3%) out of these were radiologically positive for pulmonary tuberculosis. Three of these 10 cases were known cases of pulmonary tuberculosis.

Barium Studies :

Barium follow through of small gut was done in 16 cases. Findings are shown in table VI.

Table—VI

Findings of Ba-follow through studies of the patients.

Findings	No. of cases
Normal	5
Irregular narrowing of small bowel (terminal ileum)	7
Caecal deformity (narrowing, filling defect etc)	6
High up caecum	3
Multiple constriction in ileum	1

Barium enema of large gut done in 17 cases of which 13 showed one or more abnormalities. The findings are shown in table VII.

Histopathology were done in 36 cases (30 cases of excised tissue and lymph node and six cases of mesenteric lymph node only). Histopathologically findings of all the cases conformed with that of tuberculosis.

Treatment :

Three cases were treated conservatively with antituberculous drugs and 40 cases were treated surgically along with chemotherapy.

Table—VII

Findings of Ba-enema studies of the patients

Findings	No. of cases
Nomrmal	4
Deformed caecum	6
High up caecum	7
Filling defect in caecum/colon	2
Narrowing of terminal ileum	5
Ileocaecal incompetence	8
Obtuse angle of ileocaecal junction	7

Operations done were of various types accoring to the site of lesion and nature of presentation, acute or chronic. Emergency surgery were done in 16 cases and routine in 24. List of types of operations are shown in table VIII.

Tabl—VIII

Types of operaton done on the patients

Types of operation	No. of cases
Rt. hemicolectomy with ileotransverse anastomosis	23
Ileal resection with ileoileal anastomosis	4
Stricture plasty	6
Ileocaecoplasty 4	
Ileoplasty —10 sites in 3	
Colonic resection with colocolic anastomosis	2
Ileotransverse anastomosis	4
Resection of jejunum with anastomosis with rt. hemicolectomy with ileotransverse anastomosis	1

Medical treatment of combination of rifampicin, INH, thiacetazone, pyrazinamide, streptomycin and ethambutal was given to the patients. Combination of at least three drugs were used in a patient.

Morbidity and Mortality :

There was no death. Two developed burst abdomen, three incisional hernia and one anastomotic leak which healed spontaneously with regular dressing.

Sites of involvement :

The site most commonly involved was ileocaecal region (26 cases) followed by ileum (13 cases) and lesion extending upto large intestine (seven cases). There were multiple lesions in many of the cases.

Tuberculosis elsewhere :

In 18 cases (41.1%) patients had involvement of other systems (table IX.)

Table—IX

Other sites of tuberculosis in the patients having intestinal tuberculosis

Sites	No. of cases
Pulmonary tuberculosis	10
Tuberculous fistula in ano	1
TB spine with discharging sinus	1
Cervical lymphadenitis (Tuberculous)	1
Tuberculosis in the cheek	1
Genital tuberculosis	4

All the patients of genital tuberculosis were female and two of them had primary infertility. The patients had involvement of ovaries, fallopian tubes and uterus also.

Discussion :

Intestinal tuberculosis is seldom correctly diagnosed preoperatively. Hoon et al (1950) stressed for some preconditions for diagnosis of intestinal tuberculosis. These are (1) presence of caseating granuloma in the bowel or lymphnode and (2) demonstration of AFB in the tissues or in culture or a positive animal inoculation test. All the above criteria are rarely ever satisfied and also caseation appears to bear no relationahip to positive cultures (Taylor, 1945 ; Anand, 1956 ; Howell and Krapton, 1964 ; Lee and Roy, 1964) in many cases. Tandon et al (1972) are in the opinion that rarely these criteria can be fulfilled in all cases. If all the criteria of Hoon et al (1950) to be fulfilled for diagnosis then many cases will rsmain untreated. One case in this study was initially diagnosed as ileal tuberculosis and later came out to be Crohn's disease in histopathology. So morphological examination of tissues may cause errors in diagnosis. Histopathological examination is of utmost importantce for final diagnosis along with clinical and macroscopical examination of tissue.

The age and sex incidence of this series is similar to most reports done in far, south and middle east (Hamandi and Thamer, 1965 ; Prakash et al, 1975 ; Vidya and Sodhi 1978). Tuberculosis of the G I tract may be primary or secondary. The primary involvement of G I tract without involving pulmonary and upper respiratory tract is not uncommon and these are mostly due to human bacillus (Haddas et al, 1987). Some authors found bovine bacillus among their cases (Hamandi and Thamer, 1965 ; Zuhair et al, 1982) instead of human veriety of *M. tuberculosis*. Most of the cases in this series were found to be primary intestinal tuberculosis.

Mantoux test were not positive in all the cases of this series as reported by others (Tandon and prakash, 1972 ; Shukla and Hughes, 1978 ; Prakash, 1978). Clinical diagnosic error was high (40%) in this series. Similarity in symptomatology with other diseases with intestinal tuberculosis might be the cause of such high diagnostic error (Bentley and Webster, 1967 ; Shukla and Hughes, 1978 ; Prakash, 1978). Diarrhoea is present in anly 10% of cases of intestinal tuberculosis but it is very common in Crohn's disease (Shukla and Hughes, 1978). Twenty two out of 43 patients in the present study presented with diarrhoea alongwith other symptoms. This finding differs from those of Shukla and Hughes (1978) and Tandon et al (1980) and this diarrhoea was probably due to development of bacterial over growth in the stagnant loop (Tandon et al, 1980). Present findings bear similarity with those of Zuhair (1982) who showed a 44% incidence of diarrhoea in his cases. One case presented with acute pain in right iliac fossa and was diagnosed as acute appendicitis. During appendicectomy it was found that the ileocaecal region was involved with tuberculosis and right hemicolectomy was done. Sixteen cases (37.2%) persented with acute surgical emergencies. The incidence of acute presentation varies from 5% to 50% (Lewis and Kolawole, 1972 ; Shukla and Hughes, 1978 ; Prakash, 1978 : Zahair et al, 1982). 27.9% of the present series presented with obstruction. This is 5% of all obstruction cases of hospital admission. In four cases only bypass was done. They were not fit

to withstand a time consuming surgical procedure. In six cases of strictureplasties, ileocaecoplasty was done in four cases and ileoplasty in 10 sites of three cases. Strictureplasty is safe, simple and effective procedure and no part of the bowel needs to be sacrificed by this method (Katariya et al, 1977 ; Pujari, 1979). This small procedure replaced the major procedures like enteroenterostomy or ileotransverseclostomy (Aird, 1957). It is not possible in some cases due to involvement of larger area, and right hemicolectomy still remains in practice for ileocaecal tuberculosis (Bentley and Webster, 1967 ; Prakash, 1978; Vidya and Sodhi, 1978) and it is by for the commonest operation for this condition.

Barium studies of small gut and large gut helps very much in the diagnosis of tuberculous enteritis. Though it is said that radiological differentiation of ileocaecal tuberculosis from Crohn's disease may prove impossible (Vidya and Sodhi, 1978) but involvement of terminal ileum favours the diagnosis of tuberculosis to Crohn's disease or malignancy (Paustian and Bockus, 1959). Though 'apple core', and "Napkin ring" appearances and persistant filling defect in the barium enema are described classically for malignancy, those can also be found in tuberculosis of large bowel (Murillo et al, 1978). Findings of the present study conforms with the above statement.

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PRIMARY TUMOURS OF THE SMALL INTESTINE– REPORT OF 10 CASES

M R Karim

Key words :

Tumours, Small intestine.

Summary :

Primary tumours of the small intestine are rare. Early diagnosis is difficult because the symptoms are vague and non-specific. Benign tumours are mostly asymptomatic and are found when complications such as melaena or intussusception develop. Barium contrast studies may fail to diagnose the tumours in many cases. In such a situation exploratory laparotomy is necessary. Prognosis of the malignant small intestinal tumours are poor, but better than the gastric carcinoma (Southam, 1963). Findings of ten cases of small intestinal tumours are presented in this paper.

Introduction :

A surgeon does not often come across small intestinal tumours. Malignant tumours are more common than benign tumours. Small intestine presents about 90% of the mucosal surface of the gastro-intestinal tract, yet it is the site of only 3.6% of gastro-intestinal tumours (Braasch and Denbo, 1964). In the Colon the incidence of carcinoma is 36 times greater than in the small intestine (Shallow et al, 1945). The reasons for this low incidence are not fully known. The clinical pattern of small intestinal tumours have not been well studied. In this study the findings of 10 cases of small intestinal tumours are reported.

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Case Reports :

Of the 10 cases six were males and four were females. Age distribution of the cases are shown in table-I. Most of the patients were above 40 years of age. Symptoms of the patients are presented in table-II. Most of the patients presented with abdominal pain and vomiting. One patient with jaundice had a periampullary carcinoma causing biliary obstruction. Two patients presented with intussusception. One patient had perforation of ileal adenocarcinoma with peritonitis. One patient presented with painless melaena due to adenoma. One patient with ileal lipoma presented with subacute small intestinal obstruction. The single patient with ileal lyphoma presented with a mass in the right lower abdomen.

Of the adenocarcinomas two were located in the duodenum, one in the proximal jejunum and one in the ileum. Of the

three adenomas, one was located in the jejunum and the rest were in the ileum. All the other tumours were located in the ileum. Histological types of the tumours are shown in table-III.

Table—I

Age and sex wise distribution of the patients

Age group (in years)	Number of patients	
	Male	Female
21-30	1	0
31-40	1	0
41-50	0	3
51-60	3	1
Above 60	1	0

Table—II

Distribution of symptoms presented the by the patients

Symptoms	Number of patients
Abdominal pain	8
Diarrhoea	2
Vomiting	6
Jaundice	1
Abdominal mass	1
Weight loss	2
Melaena	1

All the cases were operated upon. Resection of the involved segment of the small intestine was done in eight patients. One patient with duodenal carcinoma had

Table—III

Histological types of intestinal tumours

Histological Types	Number
Ademocarcinoma	4
Adenoma	3
Lymphoma	1
Carcinoid	1
Lipoma	1

a gastrojejunostomy and one patient with periampullary carcinoma had gastrojejunostomy, cholecystojejunostomy and jejunojejunostomy.

The patients with adenoma and lipoma were cured after the operation. The patient with carcinoid tumour developed carcinoid syndrome six months after operation and was controlled by drug treatment. She died three years later. The patient with lymphoma of the ileum had post-operative radiotherapy. He died four years later of recurrence. Of the adenocarcinomas one died ten days after operation due to septicaemia. One patient with ademocarcinoma of the duodenum died one year after operation due to carcinomatosis. Rest of the cases were not followed up.

Discussion :

Due to the rarity of the small intestinal tumour, clinical evaluation with this small series is not adequate. Malignant tumours occur with increasing frequency in distal small bowel. Wilson et al (1974) reported higher incidence of malignat tumours in the ileum (48.8%) compared to those in the jejunum (28.5%) and the duodenum (22.5%).

In this series five tumours (three malignant and two benign) were found in the ileum, three tumours (two benign and one malignant) in the jejunum and two malignant tumours in the duodenum.

Histologically Wilson et al (1974) reported 50% adenocarcinoma, 30% carcinoid and 11% leiomyosarcaoma in a series of 2,144 malignant small intestinal tumours. Southam (1963) reported 53 cases of malignant small intestinal tumours viz, 32 adeno-carcinoma, 13 malignant lymphoma and eight carcinoid and 24 cases of benign small intestinal tumours of different histological types. Diagnosis of small intestinal tumours is different due to the rarity of primary tumours and non-specific symptoms. Early detection is necessary since 60% of them are malignant (O' Brien, 1973).

Wilson et al (1974) reported that the most frequent symptoms in 808 malignant small intestinal tumours were weight loss (39%), obstruction (30%), bleeding (23%) and pain (20%). In this small series, cases of duodenal and proximal jejunal tumours simulated gastric outlet obstruction.

Pre-operative diagnosis can be suggested by barium follow through, but small intestinal enema is preferred as it shows better radiographic patterns of small intestinal tumours, such as intra-luminal or ulcerative filling defects. Plain X-ray of the abdomen in erect posture is helpful for diagnosis of perforation and obstruction. Angiography of the caeliac and the superior mesenteric arteries by selective catheterisation should be considered in haematemesis or melaena. Sometimes a radiologist or a surgeon can miss the filling defects of the tumour in barium series.

Treatment of malignant small intestinal tumours is wide resection along with adjacent mesentry and the lymph nodes (Silberman, 1974). But technically it seems to be a difficult operation in case of duodenal lesion because of the close proximity to the bile duct, the head of the pancreas and the superior mesenteric vessels. If selective resection is not possible, palliative resection or by pass operation to relieve obstruction or to control bleeding is beneficial. Chemotherapy may occasionally provide palliation in patients with adenocarcinoma. Carcinoma of the gastro-intestinal tract is usually resistant to radiotherapy, but is effective in lymphoma.

Benign tumours are managed by local excision and closure of the intestinal wall. At times it is necessary to do resection and anastomosis in a large tumour or in an intussusception causing gangrene of the intestine.

Patients with benign tumours of the small intestine can be cured by excision, but not the malignant ones. The overall five years survival rate in most reports is approximately 30% to 40% (Rochlin, 1961). Brooks et al (1968) reported that the total five years survival of patients with adenocarcinoma was only 16.4%. In this series of six malignant cases of small intestinal tumours only one case (lymphoma) survived more than four years.

It can be concluded that primary tumours of the small intestine are uncommon. Diagnosis of benign tumours remain a mystery to the clinician whereas malignant tumours are often diagnosed at an advanced stage. By knowing the symptoms, signs and methods of investigations, surgeons should have a greater awareness of tumours

of the small intestine. Early operation is essential if prognosis for patients with malignant small intestinal tumours is to be improved.

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COLLEGE NEWS

Continuing Medical Education Programme :

Following lectures were delivered in the College premises under above programme :

28-9-89 — Dr. S. F. Huq
Professor of Radiotherapy (Retd.) and President, Bangladesh Cancer Society, Dhaka on Prevention of Cancer.

26-10-89 — Dr. Zia-ur-Rahman
Asstt. Professor of Surgery, IPGMR, Dhaka on Early Gastric Cancer Detection and Related Digestive Tumours.

Orientation Course :

A five weeks orientation course for willing candidates of FCPS Part I Examination was held from 1.1.89 to 6.12.89. The registration fee for the said course was Tk. 500/- only. The following visiting Faculty members from the Royal College of Physicians of Edinburgh and Institute of Medicine, Yangoon, Myanmar delivered lectures in the Orientation course.

1. Dr. S. R. Wild
   Consultant Radiologist
   Western General Hospital
   Crewe Road, Edinburgh EH4 2XU.
2. Dr. M. J. Mackie
   Consultant Haematologist
   Western General Hospital, Edinburgh.
3. Dr. R. C. Heading
   Consultant Physician
   Royal Infirmary of Edinburgh
   Edinburgh EH3 9YW.
4. Dr. G. J. R. McHardy
   Consultant Clinical Respiratory Physiologist, Lothian Health Board
   Scotland.
5. Dr. Daw Hta Kyu
   Professor and Head of the Department of Pathology, Institute of Medicine
   Yangoon, Myanmar (Burma).

Their deliberations were very helpful to the students as well as members of the medical profession.

A short intensive course for willing candidates of FCPS II Examination in Surgery was also held from 1.10.89 to 30.11.89 in collaboration with the department of Surgery of Dhaka Medical College. The registration fee for the said course was Tk. 500/- only.

Examination News :

Results of FCPS Part I, FCPS Part II and MCPS Examinations held in January, 1990 are given below :

419 candidates appeared in FCPS Part I Examination held in January, 1990 of which 33 candidates came out successful. Subjectwise results are as follows :

Subject	Number appeared in theory examn.	Number qualified for viva-voce	Number passed
Medicine	76	14	4
Surgery	100	15	4
Obst. & Gynaecology	78	7	2
Paediatrics	55	8	3
Ophthalmology	51	16	11
ENT Diseases	19	1	1
Psychiatry	6	1	1
Anaesthesiology	24	7	3
Radiology	2	1	1
Radiotherapy	2	2	2
Clinical Pathology	5	2	1
Total	419	74	33

105 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	Name of Medical College from where graduated	Subject
1	Dr. Md. Rajibul Alam	Mymensingh Medical College	Medicine
5	Dr. Mohammad Abdus Sobur	Sylhet MAG Osmani M. C.	Medicine
6	Dr. Md Abdur Rahim	Mymensingh Medical College	Medicine
8	Dr. Amaresh Chandra Shaha	Rajshahi Medical College	Medicine
10	Dr. Rashidul Hasan	Chittagong Medical College	Medicine
15	Dr. Sk. Md. Abu Zafar	Rajshahi Medical College	Medicine
16	Dr. Syed Azizul Haque	Sir Salimullah Medical College	Medicine
19	Dr. Md. Mahtabuddin Hassan	Chittagong Medical College	Medicine
22	Dr. S. M. Mamunur Rahman	Rajshahi Medical College	Medicine
28	Dr. Md. Amzad Hossain Fakir	Mymensingh Medical College	Medicine

38	Dr. Chowdhury Muksed Sultan	Dhaka Medical College	Medicine
47	Dr. A. K. Mostaque	Sher-e-Bangla Medical College	Surgery
49	Dr. A. M. S. M. Sharfuzzaman	Sir Salimullah Medical College	Surgery
52	Dr. Md. Shahadat Hossain	Dhaka Medical College	Surgery
53	Dr. A.Z.M. Shakhawat Hossain	Mymensingh Medical College	Surgery
55	Dr. K. M. Ashraf Ali	Sher-e-Bangla Medical College	Surgery
61	Dr. Sharker Zahirul Islam	R.G. Kar M. College, Calcutta	Surgery
66	Dr. Mirza Mahbubul Hasan	Dhaka Medical College	Surgery
68	Dr. A. B. M. Abdul Hannan	Mymensingh Medical College	Surgery
69	Dr. Md. Ghyasuddin	Sir Salimullah Medical College	Surgery
71	Dr. Nasreen Hossain	Rajshahi Medical College	Paediatrics
72	Dr. Shahana Akhter	Dhaka Medical College	Paediatrics
74	Dr. Eklima Khatun	Dhaka Medical College	Paediatrics
75	Dr. Md. Abdur Rashid	Mymensingh Medical College	Paediatrics
76	Dr. Tahmina Begum	Mymensingh Medical College	Paediatrics
86	Dr. Iffat Ara	Mymensingh Medical College	Obst. & Gynae
88	Dr. Farhana Dewan	Dhaka Medical College	Obst. & Gynae
89	Dr. Dr. Maliha Rashid	Sir Salimullah Medical College	Obst. & Gynae
92	Dr. Md. Shaiful Islam	Dhaka Medical College	Ophthalmology
94	Dr. Jalal Ahmed	Dhaka Medical College	Ophthalmology
100	Dr. Rezwana Quaderi	Sir Salimullah Medical College	Psychiatry
101	Dr. Waziul Alam Chowdhury	Rajshahi Medical College	Psychiatry
102	Dr. Mohammad Ahsanul Habib	Rajshahi Medical College	Psychiatry
105	Dr. Md. Abdul Quadir	Dhaka Medical College	ENT Diseases

97 candidates appeared in MCPS Examination in different subjects. List of candidates who satisfied the board of examiners is as follows :

Roll No.	Name	Subject
17	Dr. Muhammad Faruque	Surgery
42	Dr. Zinnat Ara Haider	Obst. & Gynae
43	Dr. Hosne-Ara-Begum	Obst. & Gynae
44	Dr. Zeenat Ara Chowdhury	Obst. & Gynae
46	Dr. Selina Parvin	Obst. & Gynae
48	Dr. Yeasmin Jahan	Obst. & Gynae
51	Dr. Monowara Sultana	Obst. & Gynae
53	Dr. Hosne Ara Begum	Obst. & Gynae
57	Dr. Parveen Banu	Obst. & Gynae

62	Dr. Md. Shamsul Alam	Opthalmology
68	Dr. Md. Saiful Islam	Anaesthesiology
69	Dr. Maswood Ahmed	Anaesthesiology
76	Dr. Mohammad Humayun	Clinical Pathology
82	Dr. A. K. M. Wahiduzzaman	Clinical Pathology
90	Dr. Abul Kalam Bepari	Dental Surgery
93	Dr. Abdul Baker	Forensic Medicine
94	Dr. Syed Mohammed Kashem	Forensic Medicine
96	Dr. Md. Dayem Uddin	Radiotherapy

Debarring FCPT Part I candidates for proof performance :-

In FCPS Part I Examination, if a candidate secures marks less than '10-Grade' he will be debarred from appearing in the examination for one session and if he secures marks less than '7-Grade', he will be debarred from appearing in the examination for consecutive two sessions.

This will be effective from July, 1990 examination.