

# Management of Extra-Pulmonary Tuberculosis Other Than Abdominal Tuberculosis Presenting to Surgeons

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## ABSTRACT

**Objectives:** To emphasize the early diagnosis of extra-pulmonary tuberculosis with high index of suspicion and for better treatment plan.

**Place & duration:** This was retrospective study conducted at AVICENNA Medical College and Hospital from January 2010 to December 2010.

**Patients & methods:** A total of 32 patients irrespective of age and gender who were diagnosed to be cases of extra-pulmonary tuberculosis of one form or the other were included in this study. Abdominal tuberculosis patients were excluded from this study.

**Results:** Out of 32 patients, majority were male. Majority of patients were suffering from tuberculous Lymphadenitis as enlarged Lymph nodes or Cold Abscess in neck axilla and Inguinal regions. The tuberculous involvement of bones, ribs and joints were not also uncommon. One patient was having urinary tract symptoms. All patients were treated with Anti-tuberculous therapy (ATT).

**Conclusion:** In developing countries like Pakistan the Pulmonary and Extra-pulmonary tuberculosis (TB) is yet the major health problem.

**Key words:** Extra-pulmonary tuberculosis, Lymphadenitis, Cold Abscess, ATT.

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## INTRODUCTION

Tuberculosis (TB) is the global epidemic which is killing 2 million people each year. Overall one third (1/3rd) of the world population is infected with tuberculosis (TB) with 8 million (1%) being newly infected each year. It has been estimated that between 2002 to 2020 approximately 1000 million will be newly infected, 150 million will get sick and 36 million will die. Presently, the biggest number is born by South Asia<sup>1</sup>.

Mycobacterium tuberculosis primarily affects lungs but may cause lesion any where in the body<sup>2</sup>. In recent years there has been a sharp increase in the incidence of non-pulmonary-tuberculosis<sup>3</sup>. Extra-pulmonary disease (Pleura, Lymph- nodes, gastro-intestinal tract or urinary) is present in 15% non HIV patients and 70% of HIV positive patients with pulmonary tuberculosis.

Skeletal Tuberculosis occurs in 1% of patients of Pulmonary Tuberculosis<sup>4</sup> and accounts for 10% of all cases of Extra-pulmonary Tuberculosis. Two percent of all new cases of Tuberculosis involve bone or joints<sup>5</sup> Any bone can be involved but the commonest site is spine<sup>6</sup> followed by joints. Long bones are involved less commonly<sup>7</sup>.

Diagnosis of Extra-pulmonary tuberculosis is usually difficult because of varied presentation and lack of sensitive tests<sup>8,9</sup>. Extrapulmonary sites of infection commonly include Lymphnodes, Pleura and Osteo-articular areas. Although any organ can be involved. The diagnosis of Extra-pulmonary

tuberculosis can be elusive, necessitating a high index of suspicion. Physician should obtain a thorough history focusing on risk behavior s for human Immunodeficiency Virus (HIV) infection and tuberculosis. Anti tuberculosis therapy can minimize morbidity and mortality.

## PATIENTS AND METHODS

It is a retrospective Study of 34 patients presenting to surgical outpatients departments and confirmed by tissue biopsy for TB Granulomas on histopathology. All patients irrespective of age and sex were included who variably presented to surgical out patients department of AVICINNA Hospital and Medical College Lahore during Jan 2010 to Dec 2010 with suspicion of tuberculosis. All those patients who were clinically suspected to have extrapulmonary tuberculosis, supported by investi-gations and gross morpho-logical findings at surgery and histopathologically proven caseating Granulomas were included in this study. The cases of cervical Lymphnodes with nonspecific histopathology and all the patients of tuberculous abdomen were also excluded. In this Study of 34 patients of extra-pulmonary tuberculosis majority were male 20 (58.82%) and 14 (41.18%) female with male to female ratio 3:2.

### Out of total 34 patients:

- 10 patients (29.42%) were between 5-15 years of age
- 15 patients (44.12%) were between 16-30 years of age
- 5 patients (14.70%) were between 31-45 years of age
- 4 patients (11.76%) were above the age of 45 years

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Table I

| Age(Yrs) | Total      | Male      | Female    |
|----------|------------|-----------|-----------|
| 5-15     | 10(29.42%) | 6(60%)    | 4(40%)    |
| 16-30    | 15(44.12%) | 8(53.33%) | 7(46.67%) |
| 31-45    | 5 (14.70%) | 3(60%)    | 2(40%)    |
| >45      | 4(11.76%)  | 3(75%)    | 1(25%)    |

All 34 patients presented in surgical out patients department with complaints mentioned in table II. A thorough clinical examination was carried out in all patients and all relevant investigations were done. Chest radiograph was done in all cases which revealed that only 3 patients (8.82%) have evidence of Pulmonary tuberculosis active or healed. ESR was also raised in 32 (94.12%) patients more than 40 mm/1hour and in 2 (5.88%) patients it was within normal limits.

In all the patients the relevant tissues were sent for histopathology which turned out to be positive for Tuberculosis granulomas except one patient who had carries spine L2, L3 with loss of inter-vertebral disc and the para-vertebral abscess. He was put on Anti-tuberculosis treatment without tissue proven diagnosis and he responded well to the therapy.

Table II:

| Mode of Presentation                      | =n | %age  |
|---|----|-------|
| Enlarge lymphnodes (neck, axilla)         | 16 | 47.06 |
| Cold abscess (Neck, Axilla, Inguinal)     | 8  | 23.53 |
| Bones and ribs swelling                   | 6  | 17.64 |
| Joints swelling (Hip, shoulder, DIP foot) | 3  | 8.83  |
| Urinary symptoms                          | 1  | 2.94  |

Anti-tuberculosis therapy (ATT) was given to all patients. Four drugs regimen Rifampicin, Myambutol, Isoniazid and Pyrazinamide for three months and followed by three drugs regimen. Rifampicin, Isoniazid, Mymambutol for the other 9 months Vita 6 (pyridoxin) was also given for one year.

## RESULTS

In this study the age ranges from 5-70 years, but most patients were in 2<sup>nd</sup> and third decade of life. The male to female ratio was 3:2. Majority of patients were from low socioeconomic back ground and relating to periphery of the Lahore.

Extra-pulmonary tuberculosis of surgical importance which is seen by surgeons in OPD and in emergency, was included in this study with different mode of presentation. Lymphadenitis is the most commonly occurring form of extra-pulmonary tuberculosis. Cervical Lymphadenopathy is the most common but inguinal, axillary mesenteric and mediastinal involvement, all have been described<sup>10,11</sup>.

In this study Lymphadenopathy including cervical, axilla and inguinal was found in 16 patients (47.06%). Cold Abscess in the same regions was found in 8 (23.53%) patients. Thus Lymphnodes

involvement was found in 24 patients (70.59%) out of 34 patients. All these patients were diagnosed by incisional/excisional biopsy of the lymphnodes with histology and I/D of the cold abscess for representative tissue for histopathology. Any bone may be involved in tuberculous osteomyelitis.<sup>(12)</sup> Vertebral column is a common site to get tuberculosis more than the long bones.<sup>(13)</sup> The metaphysis, diaphysis or epiphysis can be involved<sup>12</sup>.

In this study of 34 patients of extra-pulmonary TB involvement of bones and ribs were found in 6 patients (17.64%) in the form of cold abscess in ribs and discharging sinus also.

Joint involvement was found in 3 patients (8.83%). Bone and joints TB may account for up to 35 percent of cases of extra-pulmonary tuberculosis discussed in American journals of bone and joints surgery. Skeletal tuberculosis most often involves the spine followed by tuberculosis arthritis in weight bearing joints and extra-spinal tuberculosis osteomyelitis<sup>12,14</sup>.

To establish the diagnosis of skeletal tuberculosis, a high index of suspicion is critical. The tissue from the cold abscess and the synovial biopsy was taken from the affected joints and positive histopathology for TB Granulomas was found in all cases except for the carries spine, who was put on ATT on empirical grounds, on radiological findings and he responded well to ATT.

One patient with urinary tract tuberculosis presented with multiple periurithral abscess and sinuses, who on biopsy proved to be tuberculous and he also responded well to ATT. Urinary stricture also resolved. Almost more than 70% cases have completed the ATT and relieved symptomatically but 30% of cases are still on ATT and are improving and are under regular surveillance.

## DISCUSSION

Although the incidence of tuberculosis has been in decline, still this disease remains a major problem for much of world with global prevalence of infection estimated at 32 percent<sup>15</sup>. Thus, the percentage of cases that occur among foreign born persons is increasing (53 percent in 2003) in United States<sup>6</sup>. Extra-pulmonary tuberculosis has become more common since the advent of HIV infection<sup>17</sup>.

But, in our study it is obvious that extra-pulmonary tuberculosis is increasing in Pakistan most probably due to poor socioeconomic status and also due to non-compliance of the existing pulmonary tuberculosis cases to ATT, resulting in increasing number of cases not only pulmonary but also extra-pulmonary tuberculosis.

Among the extra-pulmonary tuberculosis the most common site surveyed world wide is the

tuberculous lymphadenitis involving neck, axilla, inguinal, mesenteric, mediastinal. In this study, same are the figures. About 24 (70-59%) patients out of 34 patients were having lymphadenitis in one or the other form, multiple nodes or the cold abscess in the relevant areas. Only 9 patients (26-47%) have bone and joints involvement. One patient (2.94%) had urinary system involvement. Clinical clues that showed prompt suspicion of extra-pulmonary tuberculosis are listed in table III. Patients with suspicion of tuberculosis should have appropriate specimen, sent for Acid Fast Bacillus (AFB) staining, mycobacterium culture and histology.

Table III: Clinical clues to prompt suspicion of extra pulmonary TB

|  |
|--|
| Chronic lymphadenopathy (especially cervical).                       |
| Joint inflammation with -ve bacterial culture.                       |
| Vertebral osteomyelitis involving thoracic spine.                    |
| CSF Lymphocyte pleocytosis with elevated proteins and low glucose.   |
| Persistent sterile pyuria.   |
| Tuberculosis endemic country of origin.                              |
| Unexplained pericardial effusion, pericardial calcification.         |
| Ascites with lymphocyte predominance and negative bacterial culture. |

A six to nine month regimen (Two months of INH, Rifampicin, Pyrazinamide and Ethambutol) followed by (Four to seven months of INH and Rifampicin and Ethambutol) is recommended as initial therapy for all patients unless the organisms are resistant to first line drugs<sup>18</sup>. Extended therapy also may be required for patients with bone and joints tuberculosis, delayed treatment response or drug resistance<sup>13</sup>. In our study, all the patients were treated for one year therapy regimen. to prevent the drug resistance.

## CONCLUSION

Although in United States the incidence of pulmonary tuberculosis are reducing but the extra-pulmonary tuberculosis is still common, especially in HIV positive patients and the Immigrants from Asian countries. In Pakistan also the extra-pulmonary tuberculosis is more common due to the non-compliance of patients, poor socioeconomic status and (Multi Drug Resistance) MDR. The incidence of extra-pulmonary tuberculosis are increasing despite of advances in medical treatment but the problem is the late diagnosis, improper counseling of the patients and family for adequate treatment.

By following the clinical clues to prompt suspicion of extra-pulmonary TB, shown in Table III. We can manage the patients properly and can reduce the associated morbidity of extra-pulmonary tuberculosis.

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