

# A High Incidence of Spinal Tuberculosis in Spinal Biopsies from Ghurki Trust Hospital, Lahore

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## ABSTRACT

**Aims:** To determine the prevalence of different diseases especially Tuberculosis in the spinal biopsies received from GTTH at Lahore Medical & Dental College.

**Material and methods:** A total 52 biopsies from spine were received over a year from GTTH were studied retrospectively. The frequency of different diseases diagnosed were calculated and expressed in percentages. Comparison between the percentages of different diseases was made.

**Result:** Out of a total 52 spinal biopsies examined 46.15% were diagnosed as spinal tuberculosis, 30.76% as neoplastic and 23.07% as inflammatory.

**Conclusion:** Results showed a high prevalence of spinal tuberculosis with succeeding sequence of neoplastic and inflammatory lesions.

**Keywords:** Spinal tuberculosis, biopsy,

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## INTRODUCTION

Spinal biopsy is usually performed to confirm a diagnosis made after clinical assessment of a patient. It is usually advised when the patient has severe refractory pain<sup>1</sup> and his radiological reports including X-rays, bone scan and CT scan have shown some pathology<sup>2</sup>. Histological examination usually confirms the diagnosis except in very few cases when MRI is usually diagnostic. Spinal biopsies on histological examination mostly reveal malignancies either primary or secondary and inflammatory diseases like osteomyelitis or skeletal tuberculosis<sup>3</sup>.

Incidence of Tuberculosis is increasing<sup>4</sup>. Skeletal tuberculosis accounts for 10–20% of all extra pulmonary cases<sup>5</sup>. Out of extrapulmonary skeletal tuberculosis, spine is the most commonly affected site. Spinal tuberculosis causes bone and muscle destruction leading to spinal deformity and vertebral collapse. This results in compression of nerves and spinal cord and thus patient presents with complaint of muscle weakness, loss of sensation and paraplegia<sup>6</sup>. The mycobacterium reaches the spine mostly by hematogenous spread and remains elusive due to indolent nature of tuberculous infection<sup>7</sup>. The X-rays of spine usually show compression fracture and if no signs of pulmonary tuberculosis are present, they may be mistaken for malignancy or secondary deposits in the bone<sup>8</sup>. The

present study was carried out to determine the frequency of different diseases of spine and specially to see the prevalence of spinal tuberculosis.

## MATERIAL AND METHODS

The study was carried out on spinal biopsies of patients with history of backache, weakness and paraplegia sent from Ghurki Trust Teaching Hospital (GTTH). Histopathological diagnosis was made on these biopsies. The microscopic criteria for diagnosis of tuberculosis were granulomatous inflammation, caseation necrosis and Langhan's type of giant cells whereas those lesions in which only acute and chronic inflammatory cells were present were labeled as chronic non-specific inflammation. The criterion for tumour was presence of neoplastic lesion.

## RESULTS

Out of 52 spinal biopsies 24 were diagnosed as tuberculosis 16 as neoplastic and rest of 12 had features of chronic nonspecific inflammation. After calculation of percentage, it was found out that 46.15 % of cases were tuberculous, 30.76% of cases were tumour and 23.07% were chronic nonspecific inflammations (Table 1).

Table 1: Different disease diagnosed in a total of 52 spinal biopsies

| Diagnosis                         | =n | %age  |
|-----------------------------------|----|-------|
| Tuberculosis                      | 24 | 46.15 |
| Tumour (Neoplastic)               | 16 | 30.76 |
| Chronic non-specific Inflammation | 12 | 23.07 |

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## DISCUSSION

Results showed that majority of the spinal biopsies examined were positive for tuberculosis. This is in agreement with results of Pertiviset et al<sup>9</sup>. In our study tumor was second most common pathology detected. This is in accordance to studies carried out in well developed countries<sup>10</sup>. Tuberculosis is still one of the leading health hazards that the population of Pakistan is facing according to WHO report<sup>11</sup>. One of the major sites of extrapulmonary tuberculosis is spine<sup>5</sup> and our results also showed the same. Proper and timely diagnosis of tuberculosis prevents severe complication like bone destruction and severe neurological sequelae<sup>12</sup>.

As the results showed high prevalence of tuberculosis in the population investigated so it is mandatory to properly diagnose and treat them. Moreover, the complications of skeletal tuberculosis are devastating<sup>8</sup> because of its ability to cause bone destruction, spinal deformity and paraplegia. Early diagnosis is thus essential to expect a good outcome, as it is a treatable disease having no complications if treated at an early stage. A proper education about the signs and symptoms of the disease and the importance of early diagnosis and the fact that it is treatable should be inculcated in the population. This will prevent and help in the control of disease and its complications.

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