SHORT COMMUNICATION

Tuberculosis of Spine- A Study of 15 Cases in 2013 and 2014

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Abstract

The authors reviewed 15 cases of spinal tuberculosis from 2013 to 2014 attending NH Mallareddy hospital, Suraram, Qutbullapur, Hyderabad. A real control of tuberculou disease requires a serious and sustained global effort to eliminate immune-compromised states, poverty, malnutrition and overcrowding. Tuberculosis of the spine is one of the most common spine pathology in India. Over last four decades a lot has changed in the diagnosis, medical treatment and surgical procedures to treat this disorder. More common in poorly nourished, over crowed and in subnormal social conditions. Early diagnosis and management of spinal tuberculosis has special importance in preventing the serious complications like kyphosis, paraperesis, paraplegia etc.

Key words: *Cold abscess, Pott's disease, Spinal tuberculosis, Thoracolumbar*

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Introduction

In 1782, Sir Percivar Pott described spinal TB and surgical treatment of paravertebral abscess. Hence, spinal TB was called 'Pott's disease. Spinal TB (Pott's disease) is the most common as well as one of the most dangerous forms of skeletal TB and accounts for 50% of all cases of skeletal TB. Spinal involvement occurs in less than 1% of patients with TB but the increasing frequency of TB in both developed and developing countries have continued to make spinal TB health problems [1,2,3]. If diagnosed and managed effectively by "functional treatment, early disease can resolve completely. Out of 33 biopsies from spine in patients attending NH Malareddy hospital, Suraram 15 cases show tuberculous pathology which indicates the prevalence of the disease.

Materials and Methods

Clinical, radiological and pathological data was retrieved for 15 patients who were diagnosed as having spinal tuberculosis on the basis of histopathology findings over last two years in the department of pathology, NH Malareddy Hospital attached to Mallareddy Medical College for women, suraram. The following parameters were noted for each subject - presenting symptoms and signs, location of the lesion, findings on X-ray, CT & MRI and the biopsy specimen have been subjected to histopathological analysis.

Results

A total of 33 biopsies we received from spine from patients attending the NH Mallreddy Hospital. Out of these 15 biopsies showed the tuberculous pathology that is almost 50% of lesions. The infection is more common in lower thoracic, thoracolumbar and lumbar spine followed by cervical spine. We found the incidence was higher in females (cases) compared to males (6 cases). More common in the age group of fourth and fifth decades (9 cases) followed by two cases each in the age groups of below 20 years, 20yrs - 40yrs and above 60 years. The commonest site we observed was thoracic spine (7 cases) followed by lumbar spine (4 cases) and cervical spine (4 cases). The most common presenting symptom was increasing back pain, followed by systemic symptoms like excessive weight loss, painful movements, fever, a hump in the back, and in

worst cases weakness of hands and legs and raised ESR. The presentation is similar to metastasis. The lower thoracic and thoracolumbar spines were the most common areas involved comprising 48% to 67% of lesions which is comparable with previous study[22].

Discussion

Spinal tuberculosis is a destructive form of tuberculosis. It accounts for approximately half of all cases of musculoskeletal tuberculosis and half of the lesions in spine. The spinal column is involved in less than 1% of all cases of tuberculosis. Nearly 2 lakhs people in India suffer from tuberculosis of spine, experts said [4]. Spinal TB is a very dangerous type of skeletal TB as it can be associated with neurologic deficit due to compression of adjacent neural structures and significant spinal deformity. Therefore early diagnosis and management of spinal TB has special importance in preventing these serious complications.

Although the development of more accurate imaging modalities such as Magnetic Resonance Imaging (MRI) and advanced surgical techniques have made the early diagnosis and effective management of spinal TB much easier before neurological deficits develop, histopathological confirmation of diagnosis has major role. However, patients can still present late with considerable spine deformity [5].

Pathophysiology

The source of infection is usually outside the spine. It is most often spread from the lungs via the blood. There are two distinct types of spinal TB, the classic form or spondylodiscitis, and an increasingly common atypical form which is spondylitis without disc involvement [6]. In adults, the involvement of the intervertebral disc is secondary to spread from adjacent infected vertebra where as in children it can be primarily due to vascularised nature of the intervertebral disc. The basic lesion in Pott's disease is a combination of osteomyelitis and arthritis, usually affecting more than one vertebra. The anterior aspect of the vertebral body adjacent to the subchondral plate is commonly involved.

Tuberculosis may spread from that area to adjacent intervertebral discs [7]. Spinal TB can include any of the following - progressive bone destruction leading to vertebral collapse and kyphosis, cold abscess formation (due to extension of infection into adjacent ligaments and soft tissues), spinal canal narrowing by abscess, granulation tissues or direct dural invasion resulting in spinal cord compression and neurologic deficits [7]. If only one vertebra is affected, the disc is normal, but if two are involved the disc between them collapses, as it is avascular and cannot receive nutrients. Caseation occurs, with vertebral narrowing and eventually vertebral collapse and spinal damage. A dry soft tissue mass often forms and super infection is rare.

The pattern of bone destruction may be fragmenting in 47% of the cases, osteolytic in 34%, localized and sclerotic in 10% and subperiosteal in 30% [8]. Other suggestive findings include soft tissue involvement and paraspinal tissue abscess.

Fine needle aspiration of vertebrae for cytologic, histologic and bacteriologic studies has been recommended. Fine needle aspiration biopsy done under CT guidance was successful in diagnosing spinal tuberculosis in 34 out of 38 patients [9]. Histological studies were confirmatory of TB in 59 - 76% of the cases [10]. Fine needle aspiration biopsy as a diagnostic tool is accurate, safe and cost effective because the procedure does not require hospitalization.

Excellent results with treatment of TB spine can be achieved if early diagnosis is made. Increasing back pain should suggest plain radiograph of the spine, and perhaps followed by MRl.

Differentiating TB of the spine from osteoporotic compression fractures of the spine, especially in post menopausal women, and from spinal cord involvement in malignancies is important. Timely treatment of spinal TB can avoid extensive investigations, treatment delays and adverse long term outcomes, including compression fractures with neurological deficits.

Conclusion

The incidence of tuberculous infection has certainly reduced with improved sanitation, nutrition and hygiene, however 2/3rd of the world population is still living in such an environment where mycobacterium tuberculosis is continuing to flourish and propagate. The

increasing global travel with frequent migration of the population, co - infection with HIV and reducing immunity of the ageing population worldwide has made tuberculosis common even in the western population and a global threat to mankind [11].

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