A 34 years old woman referred with intractable neck pain

**DIAGNOSIS: Tuberculous spondylitis**

WHO estimates that each year 8 million new cases of TB occur and approximately 3 million patients die of the disease. Most of the deaths occur in the developing world, with 1.8 million occurring in Asia annually (1). It is estimated that 19% to 43% of the world’s population are infected with Mycobacterium tuberculosis (2). Tuberculous spondylitis in the developed countries is a disease of decreasing incidence and when the incidence is compared to that of developing nations, affects an older population (3). Skeletal involvement by tuberculosis is seen in nearly 60% cases of human immunodeficiency virus–infected patients (3). The thoracic and lumbar spine is most frequently involved, and in advanced courses, several vertebrae may be destroyed with resulting significant morbidity and mortality. The characteristic syndrome, Pott's disease, reflects the consequence of infection of the lower thoracic and lumbar spine. The usual clinical presentation consists of fever, back pain, and nonspecific systemic symptoms of varying duration. More advanced disease presents with neurological deficits, kyphotic deformities of the spinal column, and paravertebral cold abscesses.

Pott's disease of the cervical spine is relatively rare despite the fact that tuberculous spondylitis is still the most common manifestation of bone and joint infection but tuberculosis affects the cervical vertebrae in approximately 0.03% of all cases (4).

Tuberculosis of the cervical spine is potentially dangerous manifestation of extrapulmonary tuberculosis. The incidence is probably less than 1% of all cases of spinal tuberculosis, however, in the developing countries this constitutes an increasingly important cause of craniovertebral junction instability and cervicomedullary compression. Tuberculosis of the upper cervical spine seems to begin either in the retropharyngeal space with secondary involvement of bone or rarely in the bone itself (6). With progression of ligamentous involvement and osteolytic erosions of the odontoid, anterior subluxation of C1 on C2 and proximal translocation of the odontoid may occur. In the most severely affected patients, there is complete loss of the odontoid and anterior arch of C1 with a grossly unstable articulation between the occiput and C2. The subluxation or dislocation of C1 on C2 is reported in 56% to 75% patients at the time of presentation (5).

The spinal cord at the medullary cervical junction is threatened by atlantoaxial subluxation and upward translocation of the dens, compression by tubercular abscess, inflammatory edema of the spinal cord, and direct tubercular invasion of the cord (6). Not all patients with subluxation or dislocation of C1 on C2 have a neural deficit although some patients have neural recovery despite persistence of dislocation of C1 on C2, which suggests that dislocation of C1 on C2 is not the only cause for deficit (7,8). These patients present with severe neck pain, limitation of movement, local tenderness, tilt of the neck, tendency to support the neck, difficulty in swallowing, hoarseness of voice, stridor, or even lateral nystagmus (9).
Advanced cases can be diagnosed on plain radiographs by regional osteoporosis, increased prevertebral soft tissue shadow in front of the anterior arch of C1, and subluxation or dislocation of C1 on C2. In a patient without dislocation of C1 on C2, plain radiographs only may show an increased prevertebral soft tissue shadow, more than 7 mm in front of the anterior arch of C1. The alteration of bony texture cannot be appreciated on plain radiographs, therefore, on strong radiologic suspicion CT and MRI scans are advisable. Imaging methods such as computed tomography and magnetic resonance imaging are diagnostic of this condition and aid in the detection and prompt treatment.

We presented a case of tuberculous vertebral osteomyelitis of the first and second cervical vertebrae with adjacent soft-tissue involvement that referred with severe neck pain and stiffness from eight months ago. She had only elevated ESR. Both CT scan and MRI were extremely helpful for diagnosis, and tissue biopsy confirmed our diagnosis. Spinal tuberculosis at atlanto-axial level is often overlooked or misdiagnosed for a considerable period of time, until when there has developed subluxation or other obvious long lasting pain in the upper cervical region and limitation of motions of the neck were constantly present prior to any other positive findings.

In conclusion, these subjective symptoms, particularly in young person, are the early signals of tuberculosis and should be cared until being proved otherwise.

ACKNOWLEDGEMENT

We appreciate Drs Roya Alavi and Tabatabai for their cooperation.

REFERENCES