

# Transoral Approach to Pott's Disease of Cervical Spine

## Servikal Omurganın Pott Hastalığına Transoral Yaklaşım

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**Abstract:** A rare case of tuberculosis of the upper cervical spine managed with transoral surgery is presented.

**Key Words:** Cervical spine, Pott's disease, transoral surgery

**Özet:** Transoral cerrahiyle tedavi edilen üst servikal omurgaya ait nadir bir tüberküloz olgusu sunuldu.

**Anahtar Sözcükler:** Pott hastalığı, servikal omurga, transoral cerrahi

### INTRODUCTION

Pott's disease or tuberculosis (TB) of the spine favors the thoracic and lumbar regions. According to the reported case series from the Far East and developing nations, cervical Pott's disease is relatively rare and only 4 % to 5 % of extrapulmonary TB affects the cervical region, while in developed countries it is reduced to 0.4 % (2,6,9,13). The presentation of the cervical Pott's disease can be unusual and the diagnosis may not be apparent; therefore, delays in diagnosis are common (2,13). This case report describes a patient with cervical Pott's disease and reviews the related literature.

### CASE REPORT

A 49-year-old woman was admitted with a complaint of pain in the neck, right shoulder and right arm. The pain began one year ago with moderate limitation of neck movements, worsening in the two-month period prior to admission. She had no cough or chest pain.

On examination, she was holding her neck rigidly. Examination of the neck revealed no palpable lymphadenopathy. Neck movements were limited in all directions due to pain. Neurological

examination of the extremities revealed normal strength, sensation and reflexes.

Chest X-ray and full blood counts were normal. PPD skin testing was unhelpful. X-rays of the cervical spine showed destruction and osteosclerosis of the body of the second cervical vertebra. A CT scan showed destruction of the body of the second cervical vertebra, but no evidence of canal compression and paravertebral mass was seen (Figure I).

As the lesion was in the body of the second cervical vertebra a transoral approach was considered. During transoral surgery following the excision of anterior longitudinal ligament a protruded mass was seen in the corpus of the axis. After puncturing the mass, a yellow-gray pus was drained and the infected bone was curetted. After the operation there was a considerable relief of the cervical spine pain.

Histopathological examination of the biopsy material showed calcification necrosis and Langhans giant cells, which revealed a tuberculosis infection. After the diagnosis of tuberculosis was made, triple antituberculous drug therapy (Rifampicin, isoniazid, ethambutol) was carried out for 18 months.



Figure 1: The arrow points to the destruction of the body of C2.

## DISCUSSION

Although Pott's disease is not uncommon, tuberculosis of the cervical spine remains relatively rare (13). They are thought to arise by hematogenous spread from a lung focus, followed by a period of quiescence due to a hypersensitivity response trapping them in fibrous tissue, followed by reactivation at a later date (1).

The most common prevailing symptoms of cervical Pott's disease are neck pain and decreased range of motion, but hoarseness, dysphagia, torticollis, fever, anorexia, and neurologic deficits may also be present (9,12,15).

The diagnosis of Pott's disease may be difficult without high index of suspicion. The absence of systemic manifestation makes the diagnosis more difficult; the rate of the missed diagnoses comes out to be over 80% in some series (3). Surprisingly, only 50% of patients have chest roentgenograms that show abnormalities consistent with tuberculosis (15).

Conventional radiographs of the spine are the best initial diagnostic test (6,8,12,15). Spinal tuberculosis usually produces osteolysis of the anterior portion of a vertebral body, with gibbus formation and an associated partially calcified

paraspinal mass (6,7). Although similar findings may be seen with metastatic disease or pyogenic and fungal infections, osteolysis of the posterior elements is uncommon in tuberculosis, but is common with pyogenic infection and is typical of metastases (4,7). Both TB and pyogenic infections typically involve the disk space whereas metastases and coccidioidomycosis spare the disk. Calcification of a paraspinal mass is also typical of TB, and is most sensitively detected by CT scan (7).

In our case only osteolysis of the anterior portion of the second vertebral body was detected by CT scan but no paraspinal mass was detected. Either CT or MRI can be used to define the extent of canal compromise (14).

The results of posterior operations to decompress or stabilize the tuberculous cervical spine have generally been disappointing. Better results have been obtained with an anterior approach. In their large series, Hsu and Leong reported excellent results with anterior cervical debridement and fusion, combined with antituberculous chemotherapy. All patients were free of clinical and radiographic evidence of disease by 12 months (9,13). As is apparently true in nontuberculous osteomyelitis, bone grafts can survive and fuse in the presence of infection provided that much of the infected bone is removed and the patient is given appropriate antibiotics (5,13).

The spinal cord at the atlanto-axial region is at risk either because of mechanical compression by a tuberculous abscess or because of instability caused by destruction of ligamentous structures and bone, allowing atlanto-axial subluxation and/or upward translocation of the dens. Any lesion at the atlanto-axial region requires urgent investigation and treatment. Transoral debridement has proved to be a simple procedure both for the purpose of decompression and to obtain a biopsy, it has a low morbidity. We also have chosen the transoral approach.

A one-stage anterior surgical debridement and fusion of the atlanto-axial junction has been recommended but has a 50% failure rate and is technically more difficult than a posterior fusion (6). We did not prefer anterior fusion.

Transoral biopsy and decompression followed by an orthosis has been recommended when no

displacement of C1 on C2 exists but when there is an anterior displacement of C1 on C2, beside transoral biopsy and decompression a posterior fusion has also been recommended (10,11).

In our case there was no displacement of C1 on C2; therefore, only decompression and debridement were performed.

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