

# conservative treatment of large tubercular abscess arising from spinous process and laminae

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## Abstract

Posterior spinal tuberculosis is rare. A case of posterior spinal tuberculosis with large abscess without any neurological deficit was managed conservatively. He was relieved of pain and swelling subsided completely on anti-tubercular drugs

## INTRODUCTION

The characteristic picture of spinal tuberculosis consists of destruction of adjacent vertebral bodies and the intervening disc. Rarely the tuberculosis may affect the posterior elements i.e neural arch without affecting the body. We came across a large tubercular abscess arising from the spinous process and the laminae of C3 vertebra which was managed conservatively. Because of its rare location, it is being reported.

## CASE REPORT

A 39-year-old male attended neurosurgical service with complaints of swelling in the nape of neck of three months duration. On interrogation he complained of mild pain in the nape of neck. There was no history of trauma or fever. There was no history weakness in the limbs, bladder or bowel disturbances. On examination there was diffuse swelling over the nape of neck extending occiput to C7 spinous process. It was non-tender, ill defined and cystic in nature. There was no neurological deficit in the limbs.

Haemogram, blood chemistry, urine analysis and chest X-ray were normal. ESR was 10mm in the 1<sup>st</sup> hour. Montoux test was not done. X-ray cervical spine revealed destruction of C3 spinous process and soft tissue shadow posteriorly (Fig 1).

## Figure 1

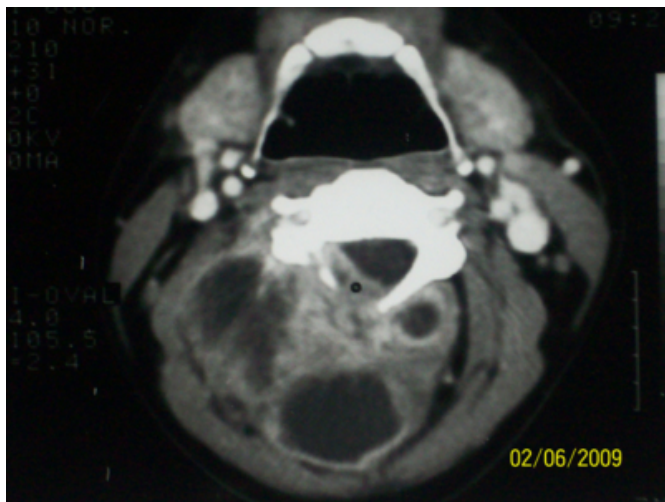
Figure 1: Lateral view of X-Ray cervical spine showing destruction of spinous process of C3 vertebra



Computed tomography revealed destruction of spinous process and laminae and large abscess in the intermuscular plain and small amount of granulation tissue in the epidural space posteriorly (Fig 2).

**Figure 2**

Figure 2: Computed tomography showing a large multilocular abscess with destruction of spinous process, lamina and extradural granulation tissue



In the absence of neurological deficit, it was decided to treat it conservatively with antitubercular drugs. On antitubercular drugs his swelling subsided completely and was relieved of pain as well and is symptom free for the last 22 years.

**DISCUSSION**

The involvement of posterior arch by tuberculosis is uncommon and has been reported from 04-10%<sup>1-4</sup>. Most of the cases of posterior arch tuberculosis have been reported from Asian countries<sup>2-8</sup> and few from the west<sup>9-16</sup>. Common presenting features of myelopathy, myeloradiculopathy or radiculopathy depending upon the site of involvement. Our patient did not have neurological deficit<sup>7,12</sup>. Most often it involves dorsal, dorsolumbar or lumbar vertebral arch but involvement of posterior arch of cervical vertebra is rare.<sup>1</sup> Even large series also did not have even a single case of cervical vertebral arch involvement<sup>2,8</sup>. Few cases of tuberculosis of neural arch of atlas and cervical vertebrae have been reported<sup>3,14,17</sup>. Lamina is the most commonly affected followed by pedicle, spinous process and transverse processes<sup>8</sup>. Pure involvement of spinous process is very-rare and has not been reported even in large series<sup>2,8</sup>. Rarity of involvement of spinous process could be attributed to its small size. Yusuf et al<sup>9</sup> reported pedicle involvement in 64.5% cases, 75% of which had vertebral body collapse and infection had probably spread to pedicle by direct contiguous extension. Plain X-ray spine usually shows the destruction of the elements of arch and soft tissue shadow. Computed tomography can show the extent of disease. In our case plain X-ray revealed destruction of upper portion of spinous

process where as computed tomography revealed destruction of lamina as well as extradural granulation tissue.

As most of the cases are accompanied by neurological deficit, treatment consists of decompression combined with antitubercular drugs. Babhulkar et al reported three out of 22 cases who refused to undergo surgery were treated conservatively and they improved<sup>2</sup>. We managed our case conservatively, as the patient did not have any neurological deficit; however, hemilaminectomy in a patient who had no neurological deficit on CT and MRI showed evidence of mass compressing the left side of thecal sac has been reported<sup>12</sup>. Posterior spinal tuberculosis could be classified into primary and secondary type<sup>12</sup>. The primary type is restricted to vertebral arch and spares the vertebral bodies and disk spaces. The secondary type is far more common and is caused by spread of vertebral tuberculosis to the vertebral arch.

Venous plexus present on the posterior surface of laminae and around spinous, transverse and articular processes anastomose with other vertebral plexuses and transmit infection to neural arch in this atypical form of spinal tuberculosis<sup>17</sup>.

**CONCLUSION**

A case with strong clinico-radiological evidence of tuberculosis can be managed with anti-tubercular drugs resulting in cure without resorting to surgery.

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