

TUBERCULOSIS OF THE SPINE

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ABSTRACT:

Tuberculosis primarily effects the corpus and disc space of spinal column. The increased incidence of Pott disease and complications related to this disease have driven more attention to this situation lately.

Back pain, radicular pain and cold abscess formation are the common features of this disease.

We operated 11 patients with Pott disease in the Orthopaedics and Traumatology Department of Gülhane Military medical Academy between 1988 and 1994.. 8 of the patients were male and 3 were female. Average age of the patients was 21 (Range 18 - 25).

There was decrease in anterior corpus height in 5 of the cases, and narrowing of the disc space in 3 of the cases, and psoas abscess in 3 of the cases. The damage in the corpus and the size of abscess is determined with the preoperative CT and MRI.

Abscess drainage, clearance of necrotic bone, anterior bone grafting together with anti-tb. treatment was applied to the cases with degeneration of corpus.

While the bodycast was applied in first 3 months postoperatively, the anti-tb. treatment was continued until 9 months.

The best surgical treatment in Pott disease could not be achieved until all the necrotic tissue is removed and abscess is drained completely.

Key Words : Tuberculosis, spine, Pott disease.

Pott disease is tuberculosis (tb) infection localised outside the lung. Its name is dedicated to Pervical Pott who thoroughly defined the disease in 1779. Vertebrae is the most common site attracted in bone localization of the disease.

Infection can be evaluated in 4 periods as prepurulent, paraspinal abscess, destruction + collapse of corpus, and healing - sequelae period. Shadow of paraspinal abscess along the spinal column can be diagnosed radiologically especially in the second period.

One thing which emphasizes the importance of the treatment is the neurologic complication of Pott disease. Treatment can be done by conservative and surgical methods. Posterior fusion (Hibbs), costotransversectomy (Wilkinson), anterior surgery (Hogston) are among the surgical techniques. Successful results can be obtained with combination of surgical treatment with medical treatment.

MATERIAL AND METHOD

We evaluated the results of 11 patients with Pott disease who were treated in Orthopaedics and Traumatology Department of Gülhane Military Medical Academy between 1988 and 1994. 8 of them were

male, other 3 were female. Average age of the patients were 26 (range 18-52). There was loss in vertebral height in 5 cases, narrowing of disc space in 3 cases, and psoas abscess in 3 cases. We evaluated the degree of vertebral destruction and localization of abscess with preoperative CT and MRI. Common complaints of patients were dorsal pain, radicular pain and cold abscess. There were fistulae openings in lumbar and inguinal area in 2 cases.

Drainage of abscess, clearance of necrotic tissue and medullary decompression applied in case of vertebral destruction and the area grafted anteriorly with tricortical or bone-block graft. All of the patients supported with medical treatment. The medical treatment was continued for at least 9 months.

The patients were immobilized with body cast for 3 months, following a lumbostat corset for additional 2 months. The patients advised to apply a strengthening exercise programme for paraspinal muscles during rest.

Average follow up was 3 years. The patients were controlled periodically every three months in first year and every 6 months for following years. No relaps in infection and pain was observed. Also there were no graft migration and resorption observed during postoperative period. There were no progression in scoliotic

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and kyphotic deformity and no neurological deficit was developed in the postoperative period. Average 400 cc of abscess fluid drained from the 4 patients. Two of the patients progressed from Frankel D to E and one patient progressed from C to E.

RESULTS AND DISCUSSION

The increasing rate of tuberculosis thus more affection of vertebrae by tuberculosis make contribution to the choice and arrangement of treatment. Some authors favor the anti-tuberculosis drug treatment. But the role of surgical treatment is definite in the conditions which causes deformation in vertebral body and thus causing neurologic deficit. The focus of infection is cleared, abscess is drained and sequestre are extracted from corpus then the area is supported with grafts or internal fixators. The occurrence of medullary compression and neurological deficits in Pott disease is indication of emergency surgical treatment. Anti-tuberculosis medication can be adequate in small abscess formation which does not disturb the stabilization of vertebral body. But the necessity of surgical treatment can not be discussed in case of broad abscess formation which requires drainage and sequestres of disc which requires clearance. Later on the corpus is supported by grafts or internal fixators.

While some authors favor anterior extended debridement with fusion by way of grafts, some authors do not accept the necessity of spinal fusion in some drained abscess cases. Angular deformities can be corrected with radical surgery. Rib, iliac crest and fibulae can be used as autogenous grafts, besides that allografts or xenografts can be used in combination with this autogenous grafts.

Some authors strongly recommend anterior strut grafting since only posterior fusion does not prevent kyphosis progression.

The common belief of TLSO use in postoperative period as an external support finds more appreciation among the surgeons. We used body cast for 3 months postoperatively in our cases.

Generally the decision about the surgical or medical treatment of Pott disease varies according to the patients, the extension of disease defined by latest diagnostic methods such as CT and MRI. Anti-tuberculosis medication applied in the postoperative period is found helpful in prevention of relaps.

REFERENCES:

1. Guirguis A.R.: Pott's paraplegia JBJS 49B 658-667, 1967.
2. Kemp H.B.S., Jackson J.W.: Anterior fusion of the spine for infective lesions in adults. JBJS 55B, 715-734, 1973.
3. Hsu L.C.S., Cheng C.L., Leong J.C.Y.: Pott's paraplegia of late onset: The cause of compression and results after anterior decompression JBJS 70B, 534-538, 1988.
4. Rajasekaran S., Soundarapandian S.: Progression of kyphosis in tuberculosis of the spine treated by anterior arthrodesis. JBJS 71A: 1314-1323, 1989.
5. Bradford L.C., Eismont LC.: Infection of the spine The spine, W.B. Saunders comp. Vol II P: 1352-1364, 1992.
6. Jonsens F.P., Dekaller R.: Spinal tuberculosis in a developed country. A review of 26 cases with special emphasis on abscess and neurologic complications clin ort. 257-67, 1990.
7. Tibau R., Fuster S., Auledo J., Ubierna M.T., Roca J.: Tuberculosis of the neural arch. Int. Ortho (SICOT) 18-119-121, 1994.
8. Bell G.R., Steanis K.L., Bonutti B.M.: MRI diagnosis of tuberculous vertebral osteomyelitis. Spine Jun. 15 (6) : 462-5, 1990.