



ISSN: 2349-9141

## Full Length Research Paper

# TOTAL HIP ARTHROPLASTY FOR POST TUBERCULAR COXITIS

\*Dr. Jvagher Jill, V. Dr. Annanmalai, R, and K. Nagappan

Department of Orthopaedics, KarpagaVinayaga Institute of Medical Science, GST road, madurantagam, kanchipuram -603308, India

\*Corresponding Author

Received 27<sup>th</sup> August 2015; Published 30<sup>th</sup> September 2015

### Abstract

We report a case of tuberculous arthritis of the hip in a 42 year old male patient, primarily treated with native Indian medicine followed by antituberculous antibiotic therapy for 3 months. On presentation, he was walking with support and had an antalgic gait pattern. The joint had become arthritic and hence he underwent uncemented total hip arthroplasty. He received antituberculous antibiotic therapy for 12 months postoperatively. At 3 year follow-up there was no evidence of recurrent infection.

**Keywords:** Tuberculous, Antituberculous, Antibiotic, Therapy.

Copyright © Dr. Jvagher Jill et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**To cite this paper:** Dr. Jvagher Jill, V. Dr. RAnnanmalai and K. Nagappan, 2015. Total hip Arthroplasty for post Tubercular Coxitis, *International Journal of Information Research and Review*. Vol. 2, Issue, 09, pp.1151-1154, September, 2015.

## INTRODUCTION

Tuberculous coxitis (TBC) accounts for 10% of skeletal tuberculosis and the hip is the most frequent site of bone involvement after the spine (Gomar Sancho and Silvestre Muñoz, 1977). The prevalence of TB has reduced since 1950 in the developed countries; however, many preventive and therapeutic developments have not been available to the developing countries (Eschard *et al.*, 1997). An increased incidence among risk groups such as HIV patients (Sunderam *et al.*, 1986) and patients treated with corticosteroids (Garrido *et al.*, 1988) has been reported. Patients with TBC have had a prior pulmonary infection from which the tubercle bacillus reaches the hip by haematogenous spread (Gomar Sancho and Silvestre Muñoz, 1977). Early diagnosis may be difficult as the onset of symptoms is often insidious.

Hip pain is the earliest symptom (Meziane *et al.*, 1987); movement may be conserved for a long time. Radiological findings at an early stage are non-specific, showing bone demineralisation and soft tissue swelling; magnetic resonance imaging (MRI) and computerised tomography (CT) may help defining the extent of the disease locally. The diagnosis may be confirmed by joint aspiration and bacteriological culture; but this is negative in 30% of cases (Meziane *et al.*, 1987). An open biopsy must then be performed. Improved antituberculous therapy has reduced the requirement for extensive surgical treatment. The most frequently recommended combination of drugs is Isoniazid (300 mg/day) Rifampicin (600 mg/day) and Pyrazinamide (20–30 mg/kg/day) (Gomar Sancho and Silvestre Muñoz, 1977). A 12 month course of treatment has been recommended for safety (Watts and Lifeso, 1996).

If the disease is not controlled by this treatment, operative intervention will be required. This may take the form of arthrotomy and debridement (Gomar Sancho and Silvestre Muñoz, 1977); or, with more extensive disease, excision arthroplasty or arthrodesis (Lipscomb and McCaslin, 1961; Tuli and Mukherjee, 1981). There have been reports of total hip replacement (THR) in the treatment of TBC both in active disease (Kim *et al.*, 1987; Kim *et al.*, 1988) and for secondary joint reconstruction (Eskola *et al.*, 1988; Hardinge *et al.*, 1979). THR may however, be associated with reactivation of infection (Fink *et al.*, 1995; Johnson *et al.*, 1979). Reactivation may also be related to inadequate initial antibiotic therapy (Kim *et al.*, 1987).

## Case report

A 42-year-old male patient presented to our institute, with 18 months history of left hip pain. His pain was progressive since onset, for which he had taken native indian medicines. With progressive pain and associated disability he started limping and had to walk with support. He was on ATT drugs for a duration of three months prior to presentation and had worsening of pain with no response to empirical therapy. He had no significant constitutional symptoms. His X rays and CT studies showed irregularity of the femoral head with significant destruction and an osteolytic lesion within the acetabulum (Figs. 1, 2). An MRI scan showed fluid within the joint and osteopenia of the femoral head and neck as well as the acetabulum and destruction of the articular cartilage. (Fig. 3). With persistent pain and radiological evidence of destruction of the hip joint it was decided to perform a total hip replacement.



Fig. 1.

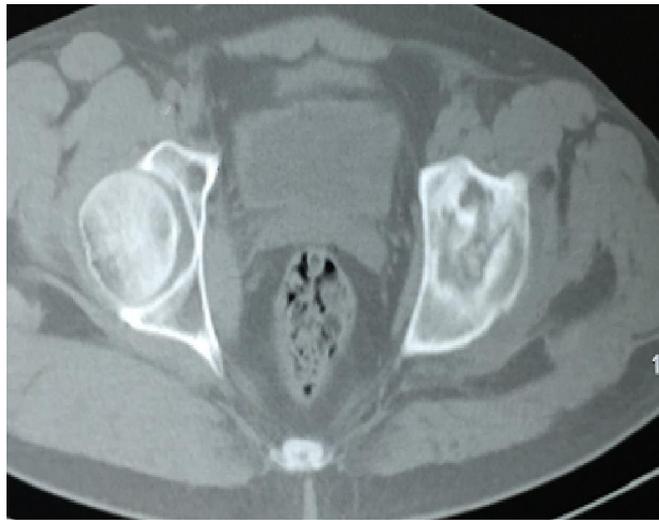


Fig. 2.

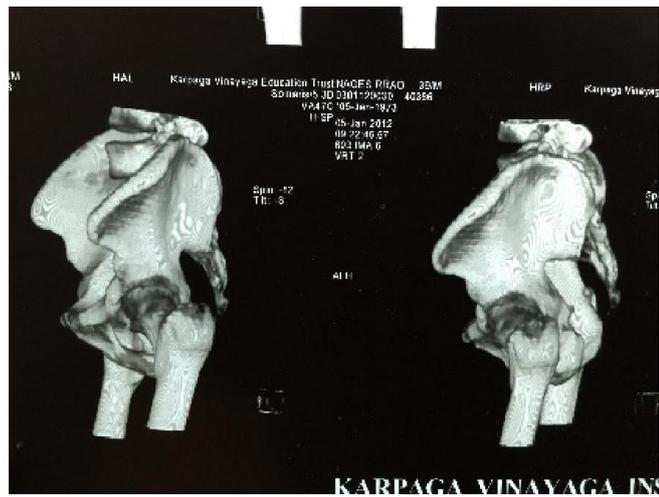


Fig. 3.

An uncemented BASIC total hip prosthesis was implanted (Fig. 4). Intra operative findings and histological reports confirmed TB. The patient received a 4 drug regimen for 3 months followed by 2 drug regimen for 9 months.

At 3 year follow-up he was free of symptoms with a stable gait and no signs of infection with full range of movements. (Fig 5, Fig 6)



Fig. 4.



Fig. 5.



Immediate Post op



3 years folloup



Clinical Functional outcome

## DISCUSSION

THR for TBC continues to be a controversial issue due to the potential risk of reactivation of infection. Some authors advise a long period of time between active infection and arthroplasty (Hardinge *et al.*, 1979), while others consider that the risk of reactivation is always present and may not increase with the passage of time (Fink *et al.*, 1995; Johnson *et al.*, 1979). Recent reports highlight the possibility of reactivation being due to inadequate initial antibiotic therapy (Kim *et al.*, 1986) and preoperative antibiotic therapy for a year prior to THR has been advised for patients who may not have received an adequate initial course of treatment (Jupiter *et al.*, 1981). Kim *et al.* (Kim *et al.*, 1987; Kim *et al.*, 1988) reported a lower reactivation rate when THR was performed 10 years after the disease had been treated and advised that if the interval between active infection and operation is less than 10 years, preoperative antibiotic therapy should be given for three months, followed by 18 months postoperative treatment, if there was persistent histological evidence of active disease. If, at operation, there was no evidence of active disease treatment was continued for 2 months or until bacteriological results were available. In our case, THR was required due to rapid progression of the disease and pre- and postoperative antibiotic therapy prevented reactivation of the infection.

## REFERENCES

- Du, H. A.K., Moers, D. and Stend, W.W. 1986. Short course chemotherapy for extrapulmonary tuberculosis. Nine years experience. *Am. Intern. Med*, 104:7
- Eschard, J.P., Leone, J. and Etienne, J.C. 1997. Tuberculose osseuse articulaire des membres. *Encycl. Méd. Chir. Paris. Appareil Locomoteur*, pp 14–216
- Eskola, A., Santavirta, S., Konttinen, Y.T., Tallroth, K., Hoikka, V. and Lindholm, S.T. 1988. Cementless total replacement for old tuberculosis of the hip. *J. Bone Joint Surg., (Br)* 70:603–606
- Fink, B., Casser, H.R., Zinkens, K.W. and Ruther, W. 1995. Reactivation of tuberculous coxitis due to loosening of a total hip endoprosthesis. *Arch. Orthop. Trauma Surg.*, 114:298–301
- Garrido, G., Gómez Reino, J.J., Fernández Dapica, P., *et al.* 1988. A review of peripheral tuberculous arthritis. *Semin Arth Rheum* 18:142–9
- Gomar Sancho, F. and Silvestre Muñoz, A. 1977. Cirugía de las artritis agudas y crónicas de la cadera en el adulto. Coordinador Burgos Flores J, Director Hernández Vaquero. La cadera. Cirugía Ortopédica y Traumatología, Editorial Panamericana, Madrid
- Hardinge, K., Cleary, J. and Charnley, J. 1979. Low friction arthroplasty for headless septic and tuberculous arthritis. *J. Bone Joint Surg., (Br)* 61:144–154
- Johnson, R., Barnes, K.L. and Owen, R. 1979. Reactivation of tuberculosis after total hip replacement. *J. Bone Joint Surg (Br)*, 61:148–150
- Jupiter, J.B., Kurchner, A.W., Lowell, J.D. and Harris, W.H. 1981. Total hip arthroplasty in the treatment of adult hips with current or quiescent sepsis. *J. Bone Joint Surg., (Am)* 63:194–200

- Kim, Y.H., *et al.* 1986. Arthroplasty using the Charnley prosthesis in old tuberculosis of the hip. *Clin. Orthop.*, 211:116–121
- Kim, Y.H., Han, D.Y. and Park, B.M. 1987. Total hip arthroplasty for tuberculous coxarthrosis. *J. Bone Joint Surg., (Am)* 69:718–727
- Kim, Y.H., Ko, C.U., Ahn, J.Y., Yoon, Y.S. and Kwark, B.M. 1988. Charnley low friction arthroplasty in tuberculous of the hip. An eight to 13 year follow up. *J. Bone Joint Surg., (Br)* 70:756–760
- Lipscomb, P.R., McCaslin, F.E. Jr, 1961. Arthrodesis of the hip. Review of 371 cases. *J. Bone Joint Surg., (Am)* 43:923–938
- McCullough, C.J. 1977. Tuberculosis as a late complication of total hip replacement. *Acta Orthop Scand*, 48:508–510
- Meziane, A., Messaqual, H., Baechar, N., Quadfel, J. and Beldjelti, S. 1987. Les tuberculoses de la hanche: problèmes diagnostiques. A propos de 44 cas. *J. Chir., (Paris)* 124:612–614
- Sunderam, G., Mc Donald, R.J., Mariatis, T., Orlenke, J., Kapila, R. and Reichman, L.B. 1986. Tuberculosis as a manifestation of the acquired immuno deficiency syndrome. *JAMA*, 256:362–366
- Tuli, S.M. and Mukherjee, S.K. 1981. Excision arthroplasty for tuberculous and pyogenic arthritis of the hip. *J. Bone Joint Surg., (Br)* 63:29–32
- Watts, H.G. and Lifeso, R.H. 1996. Tuberculosis of bones and joints. *J. Bone Joint Surg., (Am)* 78:288–298

\*\*\*\*\*