MEDICAL JOURNAL OF WESTERN INDIA
THE OFFICIAL PUBLICATION OF RESEARCH SOCIETY OF BJMC AND SGH, PUNE

WEBSITE: www.mjwi.org
ISSN NO.: 0972-9798
EISSN No.: 0972-9798

CLINICAL

Total Hip Arthroplasty in HIV-Positive Patients in a tertiary care centre – A case series

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A R T I C L E I N F O

Article history:
Date of Web Publication 15 Apr 2023

Date of Receipt: 15 Apr 2023
Date of Acceptance: 17 Apr 2023
Date of Publication: 01 Jan 1970
Article No: 199

A B S T R A C T

ABSTRACT- Total hip replacements in HIV positive patients has more risk of infections and increase in overall risk due to more comorbidities. Hereby we present a case series of 10 Primary Total hip replacements in our institute which had excellent outcomes calculated by Harris Hip score on post operative follow up at 6 months.

K E Y W O R D S

INTRODUCTION –

The introduction of highly active antiretroviral therapy (HAART) in 19971 has altered the course and nature of patients infected by the human immunodeficiency virus (HIV)1. This has resulted in significant reductions in HIV related infection, morbidity and mortality, and has coincided with an increase in the number of joint replacement operations2. However, HIV and HAART are independent risk factors for osteonecrosis of the femoral head. It has also been reported that osteoporosis can occur in patients on HAART, and the risk of hip fracture is increased. Consequently, HIV-positive patients in both high- and low-income countries are now regularly considered for arthroplasty3. HIV-positive patients suffer progressively deteriorating immunity as their CD4-lymphocyte count falls, and are prone to opportunistic infections4. In the past HIV has been considered an independent risk factor for infection, raising questions about the safety of performing arthroplasty on HIV-positive patients5. This series focuses on follow up till 6 months , with functional outcome assessment by Harris Hip score and complications such as infections

PATIENT AND METHOD –

10 HIV Patients indicated for Total hip replacement were taken into the series over a period of 1 year (2021-2022). All of the patients were aware of their HIV status pre-operatively and had been taking ART for a mean period of 5 years (1 to 11 years) pre-operatively. Harris hip score(HHS) was calculated on admission for each patient. Informed consent from the patient for both the procedure and HIV testing was carried out in all patients and CD4 levels were determined. Pre anesthetic check up was done and necessary investigations were carried out. Infective foci in the body was ruled out by thorough systemic examination and invetigations. Patients were then posted for Total Hip replacement. The patients were operated under spinal with epidural anestheisa with epidural catheter kept till 1 day after surgery for pain management. Each patient received a single dose of antibiotic at the start of the surgery (Inj Ceftriaxone 1g iv) followed by iv antiobiotics for 3 days post operatively and 2 weeks oral antibiotics. Sterile viral barrier gowns were used for protection. Romovac drains were inserted in deeper planes. Mean surgical time was 2hours and 15 mins (min 1.30 hour and max 3.30 hours). Thromboembolus-deterrent (TED) graduated compression stockings were used along with low-dose aspirin for a period of six weeks after operation. All patients were mobilised on the first post-operative day. Post operative dressings were done on Post operative day 3 along with drain removal . Post operative radiographs – PBH AP view were taken. All patients were discharged on post operative day 15 after suture removal. Post operative assessments were done on 1 month , 3 months and 6 months. Harris Hip Score were

calculated at each visits and Radiographs were taken. CD4 counts were monitored and surgical site was assessed for any infective signs.

RESULTS

Table 1 – Summary of all patients operated with THR

Out of 10 patients only 1 patient was operated for Left intracapsular neck femur fracture. None of the patients had any wound complications or any post operative complications. At 6 month follow up all patients had an Harris Hip Score representing good or excellent outcome. No infective foci or wound complications were found at 6 months follow up.On radiographs no signs of loosening was observed at 6 month radiograph.

IMAGES –

Pre operative and post operative radiographs of Left osteonecrosis of femoral head operated with total hip replacement.

Pre operative and post operative radiographs of Left intracapsular neck of femur fracture operated with total hip replacement

DISCUSSION-

This series demonstrates outcomes of THR in seropositive (HIV) patients at a followup of 6 months. In other mixed patient groups low rates of infection have been reported following arthroplasty in those who were HIV positive .In a similar patient group to ours, Brijlall7 found no incidence of infection at a mean of 62 months' follow-up, despite three of the 14 patients having a CD4 count < 200 cells/mm3 . They gave all HIV-positive patients undergoing arthroplasty an extended period of treatment with rifampicin8. In our study, patients received a standard regimen of antibiotics at the induction of surgery and/or for 24 hours post-operatively. Based on our findings of no THR infections to date, we do not recommend the extended use of antibiotics in this cohort of patients. Continuation of ART has been recommended . All patients who were operated were previously on ART. All 10 patients has good to excellent surgical outcome according to Harris Hip score without any complications.

Conclusion-

THR in HIV positive patients is a safe procedure if carried out with all the necessary precautions.

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Acknowledgement
nil

Conflict of Interest

Financial Support and Sponsorship
nil

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How to cite the Article
http://mjwi.org/article-detail.php?artid=199

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