



Implant failure in total hip replacement –a case report

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ABSTRACT

Introduction: Hip replacement surgery (hip arthroplasty) has been touted by many experts as one of the most significant medical device innovations of the last 40 years. However, hip implants do not come without risk or complications. A growing number of implant recipients have experienced implant failure and other severe complications associated with their hip replacement.

Case report: A 45 year old male patient diagnosed as avascular necrosis of bilateral hip in our institute and bilateral total hip replacement done . after 6 months patient came with pain and crackling sound every time he walked in right hip The x-rays of right hip showed malalignment of Liner

Conclusion: As hip implants began to be used in a younger and more active population, they were pushed beyond their design limitations. To address the more active lifestyle, new implants from stronger materials should be developed to more closely mimic the natural motion of the hip joint.

KEYWORDS : hip , Implant , failure

Introduction

Historically, the use of hip implants was limited to patients who had suffered hip fractures or who were older, less active and suffered from severe arthritic hip conditions. However, advances in hip replacement design , the materials they are made from and the surgical procedures used to implant them have made hip arthroplasty one of the most common orthopaedic procedures today. However, hip implants do not come without risk or complications. A growing number of implant recipients have experienced implant failure and other severe complications associated with their hip replacement. The purpose of this study is to diagnose , prevent implant related complications

Case report

A 45 year old male patient came to our department with pain in bilateral hip since one year . on examination the range of movement in bilateral hip was reduced . all routine investigations done and patient diagnosed as avascular necrosis of bilateral hip on the basis of MRI . total hip replacement done bilaterally and patient discharged . after six month patient came with pain and crackling sound every time he walked in right hip The x-rays of right hip showed malalignment of Liner . Patient was reoperated keeping all possible resources available . intraoperatively we found Popped up liner and metal reaction causing blackening of the tissues . Liner removed head dislocated . proper debridment done and a new liner applied . postoperative x-rays were satisfactory .

Discussion

In total hip replacement and hip resurfacing, the new cup and the new ball (or ball covering) can lead to complications and implant failure. As the implant recipient moves their legs, the surfaces of these two components rub against each other. The friction and abrasive wear between these two components cause debris to be produced. It is estimated that every step taken with a hip implant produces between 100,000 and 1 million particulates of debris.

The type of debris produced depends on the material the components of the implants are made of. Different materials can cause different long-term complications. For example, hip implants known as metal-on-metal hips — where both the femoral component and the cup are made of metal — will create debris primarily made of cobalt and titanium ions, which can cause a condition known as metallosis. On the other hand, hip implants known as metal-on-plastic — made of a metal femoral component and a plastic cup — create polyethylene particles that can

lead to a condition known as osteolysis. The polyethylene is thinner than in an all-polyethylene socket of the same external diameter. This probably produces greater stress in the polyethylene and may increase its wear rate . There is always some incongruity between the liner and the metal shel; holes for screws leave unsupported areas of polyethylene . Any motion at the interface between the shel and liner will generate wear debris , and the liner may disarticulate from the cup or rotate . and have been shown to allow a diminished range of motion . Disociation has also been reported in metal-backed

Conclusion

Each procedure accomplishes its goal in a slightly different fashion, but they share some of the same complications. As hip implants began to be used in a younger and more active population In fact, surgeons are now offering the procedure to patients younger than 55 — to correct a wide variety of hip conditions that previously would not have been considered severe enough to warrant the surgery . They were pushed beyond their design limitations. To address the more active lifestyle, new implants from stronger materials should be developed to more closely mimic the natural motion of the hip joint. These new designs will make hip implants available to a wider array of patients .

Popped up liner and blackening of tissues



Removed head shoeing metal reaction**REFERENCES**

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