

Metallosis in an apparently well fixed total knee replacement

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Citation

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Abstract

One of the findings of prosthetic failure seen either on pre operative radiograph or at surgery is metallosis. To our knowledge, this has not been described in an apparently well-fixed non- infected prosthetic joint. Metallosis can be due to polyethylene bearing wear resulting in metal on metal wear and has been seen with macro motion of prosthesis against underlying cement or bone¹.

CASE REPORT

An 80-year-old female presented with knee discomfort shortly after total knee replacement on same side. At two years, this discomfort deteriorated following a fall.

On examination, the right knee had tenderness over the distal femoral bone/ prosthesis interface and patello-femoral crepitus was noted.

Blood tests did not show any signs of infection.

Radiograph of the knee replacement was reported to be within normal limits². A bone scan was reported as normal³.

Because of ongoing pain, the decision to explore the total joint replacement with possibility of revision was made. At exploration of the total knee replacement signs of metallosis were found adjacent to both the femoral and tibial components (Fig.1 & 2).

Figure 1

Figure 1

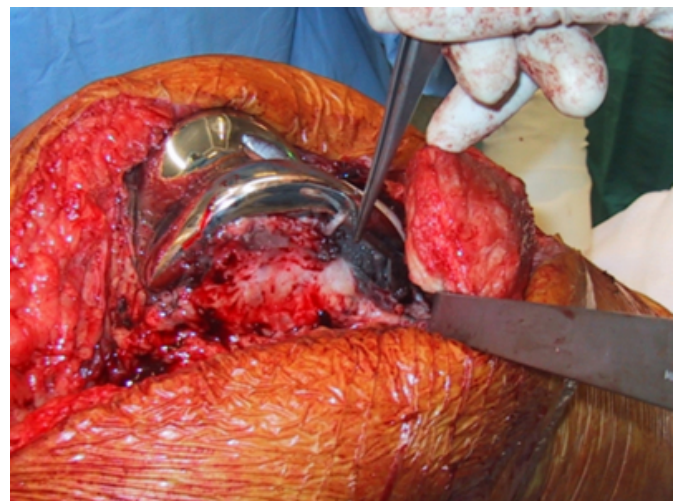
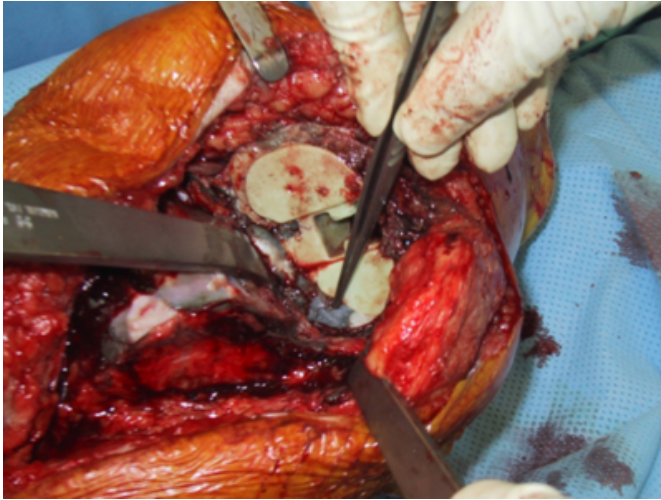


Figure 2

Figure 2



There were no obvious signs of loosening (bubble test was negative). Although the components appear well fixed the polyethylene was considered compromised by the metal debris and revision was undertaken. The extraction of the prosthesis was very easy and there was deficient cementation in a quadrant on each component allowing macro motion and with metallosis formed in these areas, we interpreted this as indicating the joint replacement was loose. The tissue samples taken for microbiology did not grow any micro organisms. The histological examinations of the tissue samples did show signs of metal in the synovium but no polymorphs were seen⁴. Following the revision surgery

patient did well and symptom of pain has completely settled.

DISCUSSION

Metallosis is usually not seen in a well fixed knee replacement but in a loose knee replacement¹. Finding of metallosis in an apparently well fixed knee replacement without poly ethylene wear should alert the surgeon to the possibilities that the component(s) is (are) loose. Further we believe that metallosis is an indication for revision as it is the sign of a failing or failed knee replacement.

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