IMPLANT CHOICE IN COMPLEX REVISION KNEE ARTHROPLASTY

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Objectives. With growing numbers of primary knee replacement surgery accordingly also need for revision arthroplasty has increased. After the previous implant has failed, bone defects, deformities and soft tissue management requires surgeons experience and understanding of surgical principles for revision implant stability and good clinical outcome for the patient.

For revision implant to be successful careful planning of implants with additional stems, augments, sleeves should be used. Trabecular metal has showed excellent results of bone ingrowth when in good contact with bone surface, for stems correct lenght and cemented or uncemented fixation can differ, although short cemented stems could be superior choise in many cases.

Althought fracture of an implant is a rare complication, we present two cases of complex knee replacement following implant failure.

67 y.o. female had undergone first revision knee arthroplasty ten years ago, with increasing pain, instability, with following episode of spraining the knee had been brought to hospital. Radiological findings showed fracture and malposition of femoral component, fracture of medial femoral condyle, malposition of tibial component.

70 y.o., female had previously undergone revision knee arthroplasty three years ago, had been brought to hospital with pain, instability after spraining the left knee joint three months ago. Radiological findings showed fracture of hinge type implant fracture.

In both cases revision knee replacement was done with hinge type implant, using additional trabecular metal and stems. In follow-up both patients was walking with good range of motion, x-rays showed no loosening of implants.

In conclusion, complex knee replacements require understanding of the bone defect classification, biomechanics, loading forces. Preoperative planning needs to be done with CT scans, long-leg standing x-rays for digital planning. Additional augments, sleeves, cones, stems must be used to achieve good contact with bone and stable fixation for implant survivorship to increase.