**Abstract Number: 10974**

# MID-TERM SURVIVORSHIP AND FUNCTIONAL OUTCOME FOLLOWING ENDO-PROSTHETIC REPLACEMENT FOR BONE TUMORS


**Background:**

The use of modular endo-prosthetic replacements (EPRs) around the proximal and distal femur are established techniques for limb salvage in tumour surgery. There has been a gradual decrease in mortality from bone tumors and there has been an increased interest in determining patient function and quality of life following limb salvage surgery with EPR.

**Questions:**

The aims of this retrospective, consecutive case series study were to define the early/mid-term survival and functional outcome following tumour resection and limb salvage around the hip and/or knee with EPR.

**Methods:**

Since 2007, 155 EPRs (distal femur: 83, proximal femur: 72) were performed for the treatment of bone tumour in a single tertiary centre by two surgeons. The prostheses used had modular components together with a cemented stem and a hydroxyapatite collar. The study's mean follow-up was 3 years (range: 1-8). The majority of patients were female (n=52, 65%) and the mean age at surgery was 69 years (range: 28–93). Overall, primary bone tumour was the indication for EPR for the majority of cases. Most tumours around the knee were 1° (77%), whilst more tumours around the hip were metastatic (64%). Patient survival was established at 5-yrs for primaries and 1-yr for metastatic cases. Implant survival was established, with revision or further surgery with removal of components as end points. Functional outcome was determined using the Toronto Extremity Salvage Score (TESS).

**Results:**

By latest follow-up, the majority of patients were alive (55%). The 5-yr patient survival for 1° bone tumor was 60% for the hip and 81% of the knee. The 1-yr survival for metastatic disease was 60% for the hip and 60% for the knee. Complications encountered included infection (7%), local recurrence (5%), dislocation 3%. 5-year survival of EPR was 94% (88 – 100%). There was no difference between hip (97%) and knee (93%) EPRs (log rank= 0.4). The median outcome was 67% (20 – 98%). There was no difference in TESS between hip and knee (p=0.1).

**Conclusions:**

The implant survivorship for this type of EPR used for the treatment of metastatic and primary bone tumors has promising early/mid-term survival. Functional outcome is comparable to those reported in the existing literature. Continued surveillance of functional outcome measures is important in determining the true effect of using mega-prostheses on patients' quality of life.