

**FC-152****Short term experience with the Xpand non-invasive expandable endoprosthesis****Y. Gortzak**, J. Bickels, A. Sternheim, Y. Kollender, A. Nirkin, D. Levin, S. Dadia*Tel Aviv Sourasky Medical Center, Tel Aviv, Israel*

Introduction: Since July 2012 we have used the Xpand prosthesis in 11 skeletally immature and one adult patient to avoid and/or correct limb length discrepancy (LLD) in patients who underwent long bone resection involving the Femur or Tibia due to primary bone sarcoma. Indications for use of were expected LLD of more than 3 cm or existing LLD exceeding 3 cm and a minimal resection length of 15 cm.

Patients and Methods: The study group consists of 6 male and 6 female patients diagnosed with either Osteosarcoma or Ewing Sarcoma and involvement of the hip or knee joint. There were 9 cases of distal femur, one proximal femur and one proximal tibia resection respectively. 7 prostheses were implanted at index surgery and 5 at a later stage, when LLD did occur.

Results: Of 12 patients, 11 are alive, of which one with metastatic lung disease. One patient died of disseminated disease within a year of surgery. Average lengthening of 2.4 cm (range 0-6 cm) was achieved during an average period of follow-up of 15 months (range 1-27). Three implants were revised to insert a longer segment when maximum extension was achieved. Deep infection that necessitated implant removal occurred in one patient (after implant revision). No loosening has been observed in this group. 50% have equal leg length, while all other patients have not reached equal length yet. There were three mechanical failures were the motor-unit stopped to function during follow-up, of which two have been revised and are functioning properly.

As a group all patients except two ambulate without assistance (short time follow-up), and have good knee function with full extension and at least 90 degrees of flexion except for two patients who cannot bend their knee at all and have a functional arthrodesis. No local recurrence has occurred. The MSTS score for six patients with equal leg length is 24 (range 19-27).

Conclusions: The Mutars Xpand provides good function and proper leg length with a minimal need for surgical interventions. A major concern is the amount of mechanical failures (3 out of 12) in this small series that necessitated revision surgery. A minimal resection length of 17 cm in order to obtain 5 cm of lengthening makes the use of this implant in small tumors problematic.