FC-096

Massive resection of diaphyseal primary bone sarcomas and reconstruction using recycled pasteurized tumor segment

A. Rafalla
Alexandria University, Alexandria, Egypt

Introduction: Several methods of reconstruction have been used after resection of an intercalary malignant bone tumor such as the use of allografts, autografts, reimplantation of the bone tumour segment after being treated and intercalary endoprosthesis.
Patients and Methods: This study included ten patients. 2 males and 8 females. Age ranged from 7 to 38 years (mean 21 years). 2 cases were Ewing sarcoma, one chondrosarcoma and 7 cases were osteosarcomas. 5 cases were tibial and 5 were femoral tumours. Wide local resections were successful in all cases and reconstruction was done by reimplantation of the tumour segment after thermal treatment using pasteurization technique. Fixation was done by either intramedullary nail or a plate or both.
Follow up ranged from 4 to 60 months (mean 23.6 months).
Results: The reimplanted graft was united in 7 patients at a mean time of 6.8 months ranging from (6 to 16months). Delayed union or non union in 3 patients One case had superficial infection. 2 patients died ; one due to complications of chemotherapy after 4 months follow up , one due to lung metastasis after 46 months follow up. One case of local recurrence and treated by above knee amputation. 2 cases had distant metastases. One case had a fracture that was treated by revision of the internal fixation.The mean musculoskeletal society functional score was 68.5% (range from 0% to 95%).
Conclusions: Re-implantation of the tumour segment after pasteurization is a safe method of limb reconstruction after resection of intercalary malignant bone tumor provided that; the tumour is not an osteolytic lesion.
Keywords: Malignant bone tumor; Pasteurization; Local resection; Diaphyseal.