

Role of extracorporeal irradiation in malignant bone tumors-short term clinical and functional outcome

Dr.k.Manoj,Prof. Shishir Rastogi,Dr Shah Alam Khan, Dr.D.N.sharma,Dr.Anamika Prasad,sakshi Chauhan.

Department of Orthopedics and Radiation Oncology, All India Institute of Medical Sciences, New Delhi, India

MATERIAL S AND METHODS
From year 2014 to 2015, 14 patients with primary MBT were enrolled into this study. The eligibility

criteria included histopathological proof of malignancy, no evidence of distant metastases, and suitability for limb preservation therapy. Surgery was performed about 4 weeks after completion of neoadjuvant chemotherapy. The affected bone segment was resected, irradiated extracorporeally with a dose of 50 Gy and reimplanted with appropriate fixations devices. Local control, complications and short-term survival were studied. Functional outcome was assessed by Modified Musculoskeletal Tumor Society (MSTS) scoring system

RESULTS: There were 10 males and 4 females with a median age of 14 years. Histopathologically, 11 patients had Ewings sarcoma and 3 had osteosarcoma. Distribution of primary site was as follows: Femur eight patients, tibia 1 patient, humerus one patient, radius 2 patients , ulna 1 patient and calcaneum 1 patient. At a median

follow-up was 6 months, 2 patients had local recurrence and 3 had distant metastasis.Two patients(14%)developed wound infection in the post operative period.The 6 months local recurrence free survival was 63% and mean modified score was 24.



Figure 1(a) shows Ewings Sarcoma of D/E Femur (b) tumor excision with step cut and clearing of soft tissues done (c) sent for ECRT, given 50Gy (d) Re-implantation done with DFLP

Applied Mechanics, Indian Institute of Technology, Delhi, India

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AIIMS AND OBJECTIVES: Extracorporeal irradiation (ECI) is relatively a rare method used in the management of malignant bone tumors (MBT). It consists of en-bloc removal of the tumor bearing bone segment, removal of the tumor from the bone, irradiation, and re-implantation back in the body. We report our preliminary experience using ECI for management of MBT.



Figure 2(A) shows Ewing's Sarcoma of middle 1/3rd Radius (b) done tumour excision and sent for ECRT (c) Re-implanted with LCP (D) After 6 months post op proximal site united and distal site uniting

CONCLUSION: Results of our study suggest that ECI is technically feasible in the management of MBT and provides decent local control and short-term survival rates