Proximal Fibula Flap for upper extremity reconstruction in Pediatric patients: A multicentric study.

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OBJECTIVE

Functional reconstruction of upper limb after sarcoma resection is always challenging for reconstructive surgeons with limited options available, keeping in mind the post operative radiation therapy.

We present our cases of using vascularized proximal fibula free flap along with physis for upper limb reconstruction.

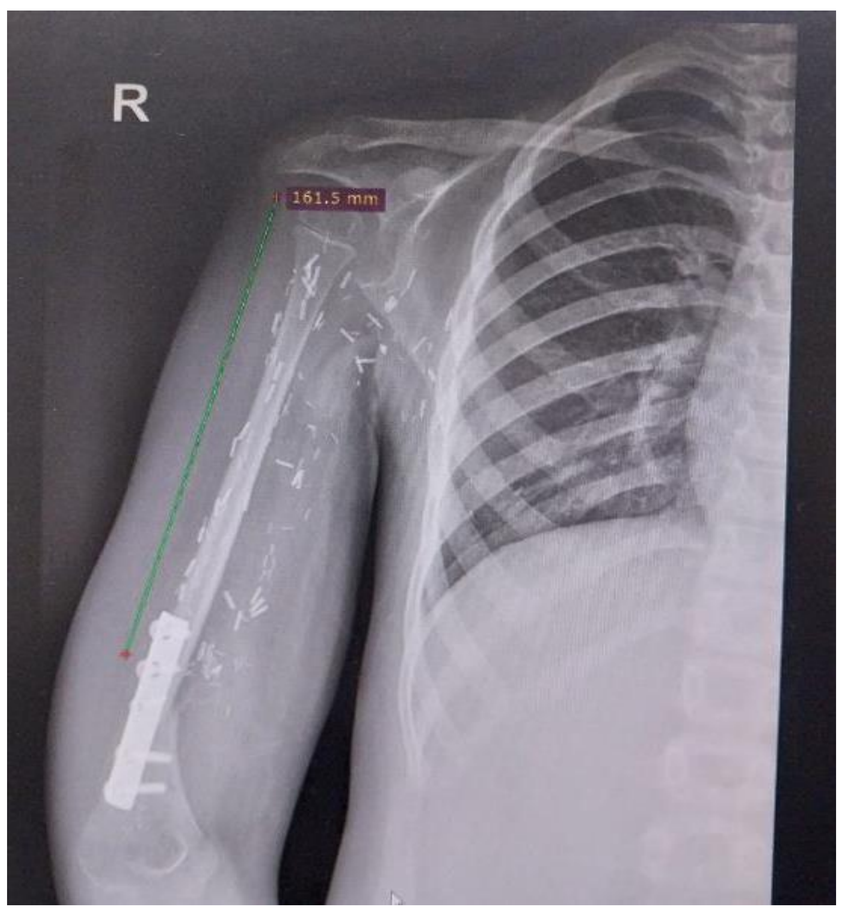
METHODS

In this study, we conducted a retrospective analysis of 14 patients who underwent vascularized fibula flap transfer for autologous functional reconstruction following oncologic resection of the humerus between April 2022 and April 2024. Surgeons evaluated all patients pre operatively and post operative outcomes like increase in bone length, bony union and donor site morbidity were monitored closely in regular outdoor follow ups.

TREATMENT

Primary Bone Tumors:

Osteosarcoma and **Ewing's Sarcoma** which underwent Wide Margin Excision and reconstruction with Vascularized Proximal Fibula free flap



RESULTS

A total of 14 patients with an average age of 10 years were included in this study. The average length of the humerus defect after surgical resection was 14 ± 1.8cm. All patients had smooth post operative period which includes no wound healing issues, 100% flap survival rate, measurable increase in bone length with complete bone union in all cases and no complications were found with post operative radiation therapy however one patient experienced brief common peroneal nerve palsy in post op period. The follow-up period was 18 months. The mean Musculoskeletal Tumor Society (MSTS) score was 29.

CONCLUSION

Vascularized Proximal fibula free flap transfer for functional reconstruction of upper limb in pediatric patients is an effective and reliable option specially in patients in which post operative radiation is to be given. It provides adequate bone length which also increases in length with time.

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