Reconstruction with vascularized fibular graft after physis preserving en-bloc resection of Ewing's sarcoma of proximal femur in an 11-year-old child

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Introduction: Resection and reconstruction of malignant bone tumor of proximal femur in skeletally immature patients is a challenge for orthopaedic surgeons. It's difficult to keep both an adequate safety margin and to preserve the physis in the sametime. And the following reconstruction of proximal femur is challenging due to substantial bone stock loss and lack of ideal prosthesis

Materials and Methods: An 11-year-old boy who was diagnosed as Ewing's sarcoma of right proximal femur with multiple lung metastases (cT2N0M1aG4, Stage IVA). Partial response was achieved after 6 months of chemotherapy course. The disease was downstaged to cT1N0M0G4, Stage IIA. En-bloc resection is the treatment of choice in such an instance.

Results: The physis preserving en-bloc resection of Ewing's sarcoma of proximal femur was done, followed by reconstruction with vascularized fibular graft. Tridimensional remodeling of the graft was observed in the following roentograph. The follow-up time was 14 months

Discussion: To our knowledge, it's the first case that malignant bone tumor of proximal femur treated with physis preserving en bloc resection and reconstructed with vascularized fibular graft in literature review. This technique showed its potential of growth and tridimensional remodeling in the follow-up. The progression of anteversion and offset of hip joint were observed in the serial roentograph. Although some of modular prostheses or allograft-prosthesis composites were expandable design, its high rates of malfunctioning and its high costs are hard to overcome. This technique may replace them. We need longer follow-up time to prove its feasibility.

Osteoblastoma in scapula

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Introduction: Osteoblastoma rarely occurs in the scapula, and diagnosis and treatment often are delayed. It is a benign bone-forming tumour that has only rarely been reported to arise in flat bones. This report documents the clinical, radiological and pathological findings of a bone-forming tumour of the scapula, which was associated with a marked periosteal reaction.

Materials and Methods:

X-ray: Osteolytic lesion with sclerotic margin in left scap

CT: Focal expansile osteolytic bone tumor in left scapula (spine to body), R/O enchonroma or fibrous dysplasia; differential diagnosis of low grade chondrosarcoma.

MRI

- 1. Rotator cuff tear, complete type, major at supraspinatus tendon.
- 2. Impingement syndrome due to subacromial spur, causing subdeltoid/subacromial bursitis.
- 3. R/O enchondroma or low grade chondrosarcoma in the scapular body (scapular spine to acromion junction).
- 4. Synovitis of humeroglenoid joint and acromioclavicular joint.

Results: Bone, scapular body to the base of acromion close to suprascapular notch, right, s/p frozen examination, incisional biopsy, organoid composition of peripherally located anastomosing sclerotic bony trabeculae and centrally oriented active fibroblastic-like stroma, c/w osteoblastoma (tumor size about 2.3-cm radiographically).

Discussion: Osteoblastoma is rarely occurred even in the whole world, The previously reported cases presented as large bone-forming tumours in children with marked anorexia and cachexia. These cases were misdiagnosed. Recognition of the clinical, radiological and histological features of toxic osteoblastoma should aid in preventing misdiagnosis of and inappropriate therapy for this rare variant of osteoblastoma.