



# Management of Unicameral Bone Cyst of Proximal Femur in Pediatric Population

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## Dear editor,

Unicameral bone cyst (UBC) is a benign lesion that mostly affects children in the age range of 4-10 years, and proximal femur is considered as the second most common anatomical location of the lesion. While an asymptomatic cyst with sufficient cortex in the upper extremities only needs observation, a lesion in the proximal femur requires surgical intervention.

Several different interventional strategies including radical excision, subtotal resection with and without bone graft, curettage and bone graft, multiple drill holes, intra-cystic prednisolone injection, and intra-medullary flexible nails are applied to treat UBC. However, evidence is not enough to support the superiority of one treatment over another and the optimal treatment of UBC remains a challenge. The risks of recurrence and fixation failure are noted as major drawbacks of conventional interventions (1).

Management of UBC of proximal femur in pediatric population is even more challenging, especially in types IB and IIB of classification introduced by Dormans and Pill. This classification is developed to guide the treatment of lytic lesions of the proximal femur with respect to the location and size of the cyst. In type I of the Dormans classification, the cyst does not involve the femoral neck, while in type II the cyst is located in the femoral neck. Moreover, subdivision B refers to the cysts where sufficient bone stock is not available on the lateral side of the proximal femur (2). In the Dormans types IB and IIB, with insufficient bone stock in lateral buttress, the fracture risk is higher. Consequently, the management of the cyst requires careful considerations. However, the selected device should not damage the trochanteric apophysis and epiphyseal plate of proximal femur.

The current study evaluated the outcome of a new method to manage UBC types IB and IIB of proximal fe-

mur in pediatric population using locking plate and fibular strut-graft augmentation (3). In this method, it was assumed that when the fixation is extended to the femoral shaft, a locking plate could act like a lateral buttress, while its implementation along with fibular strut graft could potentially decrease the risk of fracture, graft resorption, and screw cut-out. In addition, this procedure obviates the need for a plaster cast and allows an early return of the patient to normal activity (3).

At a mean follow-up period of 41.7 months, no recurrence, fracture and screw cut-out were observed in this series after the application of this method and none of the cases of the current study needed a re-operation (3).

Based on the obtained results, authors believe that the employed strategy to manage pediatric UBC types of IB and IIB of proximal femur using locking plate and fibular strut graft augmentation could be regarded as an acceptable surgical intervention associated with a favorable outcome and early mobilization. Thus, it has the potential to be introduced as the most reliable method to manage such lesions.

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