

**Background:** Diagnosing GCL can be extremely difficult due to the rarity of these lesions. Histologically many benign GCL mimic each other and can further be mistaken for a malignant GCL. Additionally confusing the diagnosis, many benign GCL have significant morphological overlap. However, it is of utmost importance to arrive at an accurate diagnosis as treatment varies significantly based on the pathology. Our patient presentation highlights that differentiating GCLs can be a diagnostic challenge as illustrated. Our review of the literature found scarce reports of multifocal non-ossifying fibroma. In this case report, we describe a non-syndromic multifocal non-ossifying fibroma successfully treated with biopsy curettage and grafting. This patient was informed that her case would be submitted for publication and she agreed.

**Case:** A 14 year-old-girl complained of left knee pain for 3 months and radiographic imaging showed a destructive bone lesion at her distal femoral metaphysis, the tibial tubercle, and proximal fibula. The patient had no history of trauma and reported no infectious, inflammatory, or syndromic symptoms. Core biopsy of the left thigh lesion showed findings most consistent with giant cell tumor. Bone scintigraphy revealed new lesions at the distal femur and proximal tibia on the contralateral (right) side. Patient was treated with biopsy curettage and grafting. Intra-operative frozen section permanent reads showed giant-cell rich non-ossifying fibroma. Due to discrepancy in core biopsy and intra-operative biopsy a independent pathology consult was requested on surgical specimens. Histologically, the differential diagnosis included non-ossifying fibroma, giant cell tumor of bone, and ossifying fibroma. Radiographic imaging combined with histology gave a final pathological diagnosis most consistent with non-ossifying fibroma.

**Conclusion:** Differentiating non-syndromic multifocal non-ossifying fibroma from other giant cell rich lesions can be a diagnostic challenge. A combined approach using histology, clinical presentation, and radiology is imperative in reaching the correct diagnosis.