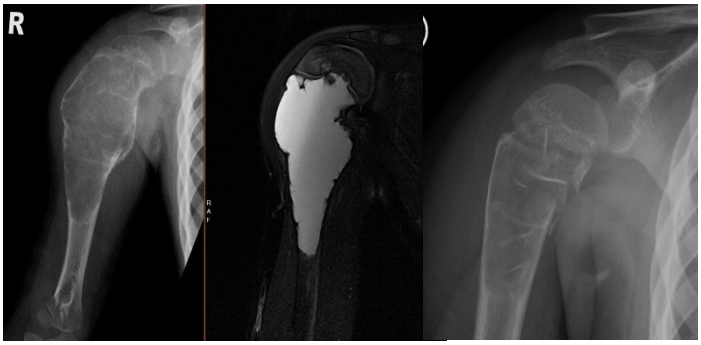
34TH ANNUAL SCIENTIFIC MEETING OF HONG KONG COLLEGE OF RADIOLOGISTS

TREATING UNICAMERAL BONE CYSTS UNDER FLUROSCOPY: A TECHNICAL PICTORIAL REVIEW OF ASPIRATION AND INTRALESIONAL STEROID INJECTION

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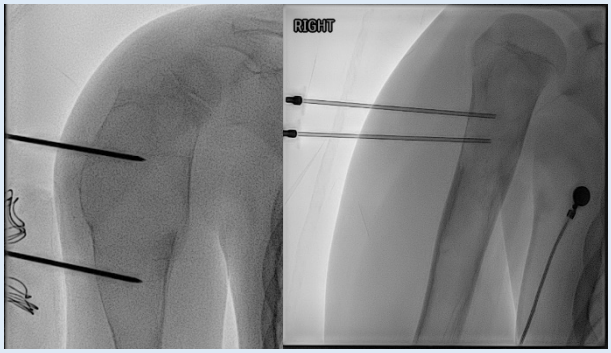
Introduction: Unicameral bone cysts (UBCs) are **benign** fluid-filled lesions predominantly affecting children and adolescents, with cortical thinning predisposing to **pathological fracture**. This pictorial review illustrates fluoroscopy-guided aspiration and intralesional methylprednisolone acetate injection, a **minimally invasive** treatment, highlighting procedural planning, dual-needle access, technical endpoints, and radiographic assessment of healing to guide repeat intervention.



*__Classical UBC__: well-defined geographic lucent lesion with a narrow zone of transition, bone expansion and endosteal thinning.

*Fluid-level on T2WI may be present indicating **haemorrahge**, often following a pathological fracture.

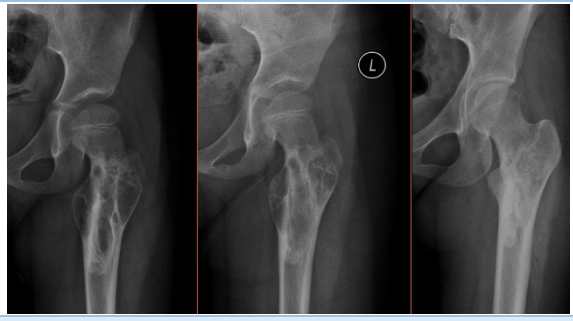
*__"Fallen fragment sign"__, characteristic of pathological fracture.



*__Dual-needle technique__ in two different patients. Cranial and caudal placement of needles (14G) under fluoroscopy, avoiding physis / articular surface. Conscious sedation or general anesthesia are often required. This facilitates **aspiration**, **pressure reduction**, lavage, septal disruption, assessment of cavity communication, and injection.

*Institutional steroid dose up to 200mg, adjusted to age, body weight and cyst size.

*Aspiration of **serosanguineous fluid**, successful drug dose delivery and decompression define technical endpoints, rather than injection to stasis.



*Four treatment sessions over 10 years. Serial imaging demonstrates **radiographic healing** with new trabeculation and progressive cortical thickening.

*Absence of new trabeculation or persistent large lucency on follow-up imaging may prompt repeat injection at **6-8 weeks interval**.

Discussion: Procedural risks are low and include infection, fracture and anaesthetic complications. Post-treatment fractures often reflect residual bone weakness rather than procedural injury. Persistent or recurrent cysts may require repeat injections as part of the treatment course, rather than as a procedural complication.

References: Ruiz-Arellanos K, et al. JBJS Rev. 2024;12(1). doi:10.2106/JBJS.RVW.23.00159

Ge J, Tian K. Front Pediatr. 2026;14:1753597. doi:10.3389/fped.2026.1753597.