

UNCLEAR ORIGIN OF AVASCULAR NECROSIS CLINICAL CASE

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Background

- Avascular necrosis (AVN) occurs in several chronic illnesses, including systemic lupus erythematosus (SLE).
- The mechanism about why and how AVN occurs isn't unraveled yet. AVN in the pediatric lupus population is understudied.

Case presentation

- We report a case of a 15-year-old girl, who was on record in the Rheumatology Clinic over the last year with the diagnosis of SLE with multiorgan involvement associated with secondary antiphospholipid syndrome (immunologically confirmed by the presence of positive ANA, anti-dsDNA, antiphospholipid and anticardiolipin antibodies).
- Clinical examination of the child 9 months after onset of disease showed the exacerbation of the inflammatory articular syndrome expressed by manifest, prolonged, treatment-resistant pain in the coxofemoral (R>L), bilateral knee and left talocrural joints (80-90 mm along VAS).
- Swelling of the both knees and both talocrural joints was determined on the clinical assessment.
- On paraclinical examination persisted increased inflammation acute phase reactants.
- X-ray revealed erosions and signs for lacunar osteoporosis in the knees and coxofemoral joints.

Imaging evaluation

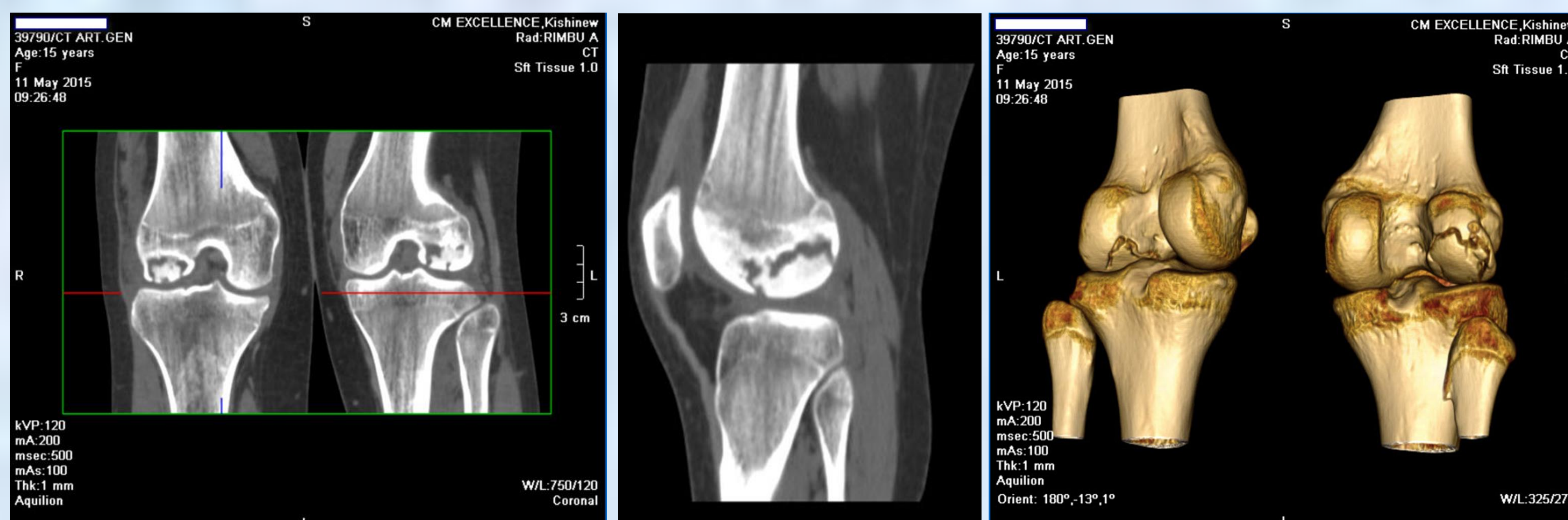


Computed tomography scan of the hip joint

Signs of pathological fracture are determined on the right side - a marginal fracture of the femoral head with a minimum shifted fragment for about 2mm, the dimensions of the fragment 16x28mm. Signs of subluxation of the femoral head are determined, with the lateralization of it in relation to the acetabulum. The area of the acetabular fossa has a well-defined outline. The capsule contains 27mm thickness periarticular liquid, with a 1 UH density.

Computed tomography scan of the knee joint

Bilateral pathological fractures are determined, caused by avascular necrosis, with a tendency of separation of the bone fragments in the projection of the lateral femoral condyle. The joint space is established with signs of decrease in these levels. The capsule contains 14mm thickness periarticular liquid, with a 1 UH density.



Conclusion

- Glucocorticoid (GC) treatment is associated with many unwanted effects but osteoporosis and fractures are the most serious adverse events.
- No single etiology is known to cause the interruption of blood supply which is the common pathway for all AVN; rather, AVN is likely the end result of a multifactorial process.

References

1. Meroni P.L. et al., Antiphospholipid syndrome in 2014: more clinical manifestations, novel pathogenic players and emerging biomarkers, Arthritis Research & Therapy, 2014,, vol.16, issue 2, page. 209-225
2. Gurion R. et al., Avascular necrosis in pediatric lupus erythematosus: a brief report and review of the literature, Pediatric Rheumatology, DOI 10.1186/s12969-015-0008-x

