
Photoclinic

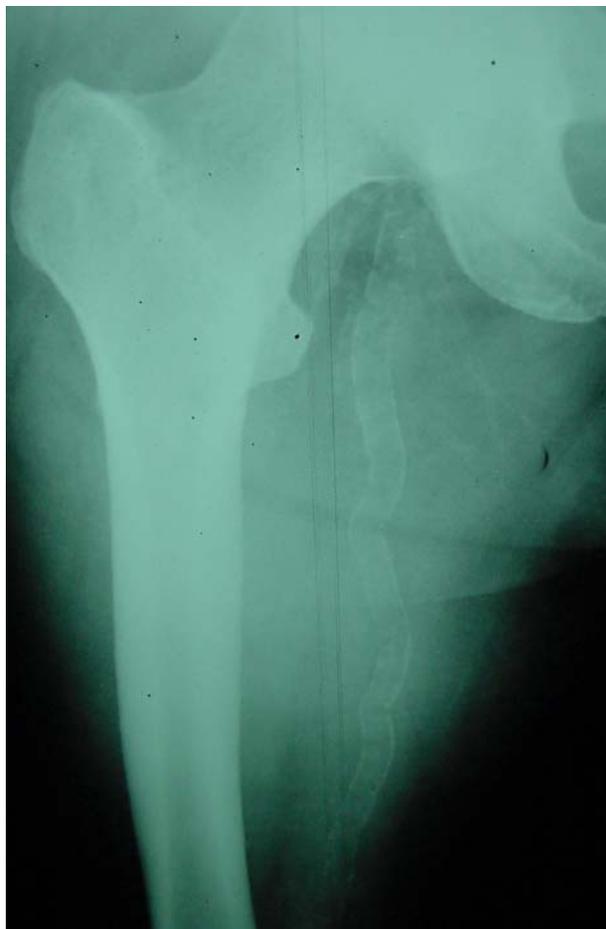


Figure 1. Plain radiograph of the thigh.

A 65-year-old woman was presented with right lower extremity pain after falling down. She was a known case of chronic renal failure due to diabetic nephropathy and was on regular hemodialysis.

Physical examination was unremarkable.

Radiography showed linear calcification in the thigh. Doppler ultrasonography revealed patency of all vessels of the lower extremity. Serum calcium was 7.2 mg/dL and phosphorus was 5.9 mg/dL.

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What is Your Diagnosis?

See page 351 for the diagnosis

Photoclinic Diagnosis:

Monckeberg's Sclerosis

Monckeberg's sclerosis (MS) is a degenerative disease in which the media of arteries become calcified independently of atherosclerosis. Because the condition does not involve the intimal layer of the artery primarily, the lumen is kept open by the rigid media and, therefore, luminal narrowing is not a direct consequence. Recent studies, however, have demonstrated that MS is a risk factor for cardiovascular disease and peripheral artery obstruction.¹⁻³

This is usually an incidental finding during lower limb radiographic examination where it is seen as "rail tracking". The involvement of renal and coronary vessels has also been described.¹⁻³

The exact pathogenesis of this process is far from being understood, but it is frequently related to glucose intolerance, aging, male gender, autonomic neuropathy, osteoporosis, and chronic renal failure.¹⁻³ Shanahan et al., proposed that a loss of expression of certain proteins related to the inhibition of calcification could be the causative factor.⁴ Byts et al., pointed out that medial

calcification could be a consequence of various metabolic changes triggered by a necrobiotic injury installed in the vessel wall.⁵

References

- 1 Top C, Cankir Z, Silit E, Silit E, Yildirim S, Danaci M. Monckeberg's sclerosis: an unusual presentation. *Angiology*. 2002; **53**: 483 – 486.
- 2 Couri CE, da Silva GA, Martinez JA, Pereira Fde A, de Paula FJ. Monckeberg's sclerosis—is the artery the only target of calcification? *BMC Cardiovasc Disord*. 2005; **5**: 34.
- 3 Monckeberg JG. Über die reine Mediaverkalkung der Extremitätenarterien und ihr Verhalten zur Arteriosklerose. *Virchows Arch Pathol Anat*. 1903; **171**: 141 – 167.
- 4 Shanahan C, Cary NRB, Salisbury JR, Proudfoot D, Weissberg PL, Edmonds ME. Medial localization of mineralization-regulating proteins in association with Monckeberg sclerosis. *Circulation*. 1999; **100**: 2168 – 2176.
- 5 Byts IUV, Holdobina VIE, Dudko MO. The current concepts of the pathogenesis of Monckeberg-type arteriosclerosis. *Fiziol Zh*. 2000; **46**: 64 – 72.