

## Photoclinic



**Figure 1.** The radiography of the hip of a 42-year-old woman with history of left buttock pain

The above X-ray of the left hip of a 42-year-old woman with history of pain in the left buttock for six months as well as nonspecific complaints of chronic generalized body pain and bilateral breast discomfort (Figure 1).

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**Your diagnosis?**  
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**Photoclinic Diagnosis: Intramuscular Calcification due to Injection of Calcium Gluconate**

The radiography showed localized soft tissue calcification of which the possible diagnoses were: soft tissue tumor with calcified features, a metastatic calcification in the setting of abnormal calcium or phosphorus metabolism,<sup>1</sup> and an old infection such as a calcified granuloma. In this case there was history of injection of intramuscular calcium compound. The main diagnostic clues were in her history of intramuscular injection and radiographic finding of the hip. No specific major illness was found upon clinical evaluation. She had three intramuscular injections (30 mL total volume), of calcium gluconate (10% solution) weekly for three times in her left buttock.

The intramuscular injection of calcium gluconate should not be used due to local discomfort, the possibilities of abscess formation, and ischemic injury.<sup>2-5</sup> In the cases of abnormal calcifications on X-ray, a full work-up is mandatory. Calcium precipitate can be seen in soft tissues due to abnormal metabolism of calcium and phosphorus and dystrophic calcifications or true calcification.

Dystrophic calcification or calcific myonecrosis occurs secondary to various infections malignancy, trauma, or metabolic and inflammatory diseases. All routine tests performed in this case, including: cell blood counts, sedimentation rate, and rheumatologic laboratory tests were normal. Calcium, phosphorus and parathyroid hormone levels were all within the

normal ranges. Mammography showed no abnormal finding.

Diseases and conditions associated with ectopic calcifications include hyperparathyroidism, sarcoidosis, vitamin D intoxication, milk alkali syndrome, renal failure, hyperphosphatemia, tumoral calcinosis, pseudohyperparathyroidism, hemodialysis, ectopic ossification, therapy with vitamin D and phosphate, dystrophic calcification, collagen vascular disease, myositis ossificans, post-surgery, burns, trauma, neurologic injury, and progressive fibrodysplasia ossificans.<sup>1</sup>

### References

1. Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J. *Harrison's Principles of Internal Medicine*. 17th ed. New York: Mc Graw Hill; 2008: 2415 – 2416.
2. Tuncay IC, Demirörs H, Isiklar ZU, Agildere M, Demirhan B, Tandogan RN. Calcific myonecrosis. *Int Orthop*. 1999; **23**: 68 – 70.
3. Mirra JM. Calcific myonecrosis. *Clin Orthop*. 1993; **327**: 308 – 319.
4. Holobinko JN, Damron TA, Scerpella PR, Hojnowski L. Calcific myonecrosis keys to early recognition. *Skeletal Radiol*. 2004; **28**: 306 – 309.
5. Edelman RR. *Clinical Magnetic Resonance Imaging*. 3rd ed. Philadelphia, PA: Saunders Elsevier; 2006; 3638 – 3639.