Penile ossification of the entire penile shaft found incidentally on pelvic x-ray

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A 63-year-old patient with a past medical history of alcoholism presented to the emergency department for a knee pain following a fall. He was walking on the side walk with his cane when he fell onto his buttocks. He denied any head injury or loss of consciousness. He was able to get up with assistance, and to ambulate. Shortly thereafter, he started to have a left knee pain, and decided to present to the emergency department.

Physical exam was negative except for a penile pain. He had no penile discharge, non-swollen prostate, no lymphadenopathy, and no costo-vertebral angle (CVA) tenderness. A pelvic x-ray performed to rule out any fracture showed a severe, asymmetric degenerative changes of the right hip. An extensive, plaque-like calcification along the expected distribution of the penis was evident (Figs. 1 and 2). The diagnosis of penile ossification along the entire penile shaft was suspected.

The patient decided to leave against medical advice. No laboratory investigation, histological examination, or follow-up was done.

Discussion

Penile ossification remains a relatively rare condition being mentioned in very few journals, with less than 40 published case reports. It is commonly linked to PD; a superficial fibrosing condition of the penis characterized by the presence of a fibrotic plaque leading to penile deformity, with or without pain. The hallmark of PD is acquired penile deformity, consisting of curvature during erection, with associated findings including loss of flaccid stretched penile length. PD presents acutely with progression of penile deformity with pain in the erect and/or flaccid states. Our patient probably presented in the acute phase of his disease due to the presence of a penile pain.

Since penile ossification refers to the process by which calcium salts build up in soft tissue, forming extraskeletal bone, etiologies and medical conditions other than PD should be considered. Malignant infiltrative process, hypercalcemia secondary to a paraneoplastic syndrome, hyperparathyroidism, or other metabolic abnormalities, end stage renal disease, and a local metaplastic process resulting from repeated trauma or a chronic inflammatory state are all possible etiologies. We couldn’t assess the following etiologies since our patient decided to leave against medical advice.
Ultrasound is the method of choice to demonstrate plaque calcifications. A calcification grading system is used for shaping the management. Ultrasonography after intracavernosal injection of vasoactive substance like alprostadil is the most accurate assessment tool to determine type and degree of PD deformity. As performed in our case, a simple radiograph using X-ray can show a penile ossification of the entire shaft that could be secondary to PD.3

The treatment of penile ossification depends on the extent of corporal ossification and the symptoms of the patient. Asymptomatic patients are usually managed with observation. Those with a bothersome acute pain or chronic mild pain may be managed with oral analgesics, topical agents, intralvesional injections, mechanical stretching or vacuum devices, and extracorporeal shockwave therapy.4 Severe cases of chronic pain or ED are usually managed surgically although multiple variations exist. Inflatable penile prosthesis (IPP) has been recently reported as a feasible option for cases of refractory ED.5

Appendix A. Supplementary data
Supplementary data to this article can be found online at https://doi.org/10.1016/j.eucr.2019.100938.

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