

Human *os penis*

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KEY WORDS

accessory sex organs ▶ male ▶ penile ossification
▶ *os penis*

ABSTRACT

This report presents a case of a 45-year-old male suffering from a rod-like mass at the base of his penis. He has been aware of its existence since puberty. Physical examination revealed a bone-hard, mobile, stick-like structure behind the *corpus spongiosum* in the median plane. A calcified periurethral rod-like 5 cm mass at the ventral aspect of intercorporeal septum of the penis was noted on computed tomography (CT) scan. The patient, who had no symptoms associated with erectile dysfunction, refused further diagnostic tests and intervention.

INTRODUCTION

Many animals possess a penile bone called an *os penis*, *os priapi*, or *baculum*. Whereas, most mammals and most other primates have a penile bone, the human penis lacks this anatomical element [1, 2]. Penile ossification in man is very rare; to date only 44 cases have been published (including patients with Peyronie's disease) [3, 4]. Its presentation has been considered either atavism or an acquired phenomenon secondary to age, metabolic disturbance, or trauma [2, 3, 4]. A new case of *os penis* with radiologic evidence is being reported.

CASE PRESENTATION AND MANAGEMENT

A forty-five year old man was admitted to the urology department at the Medical School of Dicle in Diyarbakir to be educated about the rod-like mass at the base of his penis that he discovered during self-examination. He has been aware of its existence since puberty. There were no urinary tract symptoms nor was there a history of trauma or metabolic disorder. Physical examination revealed a bone-hard, mobile, stick-like structure behind the *corpus spongiosum* in the median plane. There were no signs of hyperparathyroidism. The results of routine hematologic and biochemical tests were normal. Serum calcium and PTH levels were 9 mg/dl and 28 pg/ml, respectively. Penile erection in response to intracavernosal injection of papaverine was normal. Cystoscopic examination did not reveal any abnormality. A calcified periurethral rod-like, 5 cm mass at the ventral aspect of the intercorporeal septum of the penis was noted on CT scan (Fig. 1).

The patient, who had no symptoms associated with erectile dysfunction, refused further diagnostic tests and intervention. His International Index of Erectile Function score (IIEF) was 27.



Fig. 1. CT-urography showing a large tumor on the posterior wall of the bladder (arrow).

DISCUSSION

The function of the mammalian *os penis* is a puzzling enigma in mammalian morphology. Although few hypotheses for the evolution and persistence of the mammalian *os penis* have been proposed, all of these remain controversial [5].

It has been hypothesized that the loss of this bone in humans is related to the upright posture or mating position of *Homo sapiens* [6]. Moreover, it has been suggested that a distal ligament in the human *glans penis* replaces the *os penis* [7]. Animals that possess the *os penis* have poorly developed erectile tissue [8]. It is predicted that the human penis does not need the assistance of a bone for copulation due to its effective and error free function resulting from intensifying pressure. Soft tissue calcification in organ systems is not uncommon. There are two forms of pathologic calcification. When the deposition occurs in non-viable or dying tissue, it is known as dystrophic calcification; it occurs despite the normal serum levels of calcium and in the absence of derangements in calcium metabolism. In contrast, the deposition of calcium salts in vital tissues is known as metastatic calcification and it almost always reflects some derangement in calcium metabolism leading to hypercalcemia [9].

Formerly, it was thought that the *os penis* was an atavistic phenomenon [2]. However, in light of many reported cases, ossifications in the human penis have been considered to be either a dystrophic or metastatic calcification process [3, 4, 10]. Various conditions such as inflammation, trauma, neoplasm, Peyronie's disease, and metabolic disturbances such as chronic renal failure may lead to pathologic calcification [3, 4, 10]. In the presented case, however, the ossification is not associated with any of these conditions. There were no signs or symptoms linked to Peyronie's disease or hypercalcemia. Our case is unusual because the patient had no genital abnormality, penile curving on erection, or sexual dysfunction despite reports in previous cases by other authors. Additionally, a CT scan of the patient revealed a well-formed rod-like bone where the *os penis* is expected to be localized. Histopathologic di-

agnosis could not be performed in this case because the patient refused further diagnostics. Although interseptal calcification is not uncommon in Peyronie's disease, the features of this case evoke Hobday's argument; as more fossils are discovered and bones associated with current collection reexamined, all hominids before, and possibly including *Homo erectus*, will be found to possess an *os penis* [6].

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