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Case Report

Peri-Prostatic Epidermal Inclusion Cyst: A Case Report

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Abstract

This report describes a peri-prostatic epidermal inclusion cyst incidentally found during the routine histological examination of a radical retro-pubic prostatectomy for conventional adenocarcinoma. As the patient previously underwent prostatic core biopsy by perineal approach, we speculate that the cyst could originate from direct implantation of the overlying epidermis. The possible occurrence of an epidermal inclusion cyst should be taken into account for avoiding misinterpretation, especially in small biopsies and trans-urethral prostate resections.

Keywords: Epidermal cyst; Iatrogenic; Inclusion cyst; Prostate

Introduction

Epidermal inclusion cysts are benign lesions arising from squamous epithelium sequestration during embryonic development, or as a consequence of traumatic or surgical proceedings, especially in superficial districts, covered by skin [1,2]. The latter are more frequently encountered in specimens from head and neck, breast, osteo-articular, and plastic surgery, while they are exceptional in thoracic, abdominal and pelvic surgical specimens [1-9]. Visceral epidermal inclusion cysts may be mistaken for tumors, especially when they reach considerable size or lead to a heavy inflammatory reaction due to cyst wall rupture [10-12]. Furthermore, their malignant transformation, although uncommon, has been convincingly demonstrated [13-15]. We here report the occasional finding of a peri-prostatic epithelial inclusion cyst in a surgical specimen from radical retro-pubic prostatectomy for conventional adenocarcinoma.

Case Report and Pathological Findings

A 70-years-old Caucasian male complaining of dysuria and pollakiuria and with an elevated PSA value (7.65 ng/dl) underwent prostatic core biopsy, by perineal approach in an outside hospital. The histological diagnosis was nodular hyperplasia of the prostate. Six months later, because of increasing PSA levels (10.15 ng/dl), he was referred to our institution. Physical examination and ultrasonography were unremarkable. The patient underwent a conventional sextant core biopsy of the prostate, whereby a diagnosis of conventional prostatic adenocarcinoma Gleason score 6 (3+3) was rendered, and he was therefore subjected to a radical retro-pubic prostatectomy. The prostate was entirely examined by routine histological procedure, and the final diagnosis was prostatic adenocarcinoma Gleason score 6 (3+3) without extra-prostatic extension (pT2N0). In the right, postero-lateral peri-prostatic fatty tissue, we also found a small cyst (1 mm large), with a tick fibrous capsule, lined by a squamous keratinizing epithelium, with a distinctively recognizable granular layer, and filled up with horny, acellular lamellate material (Figure 1).

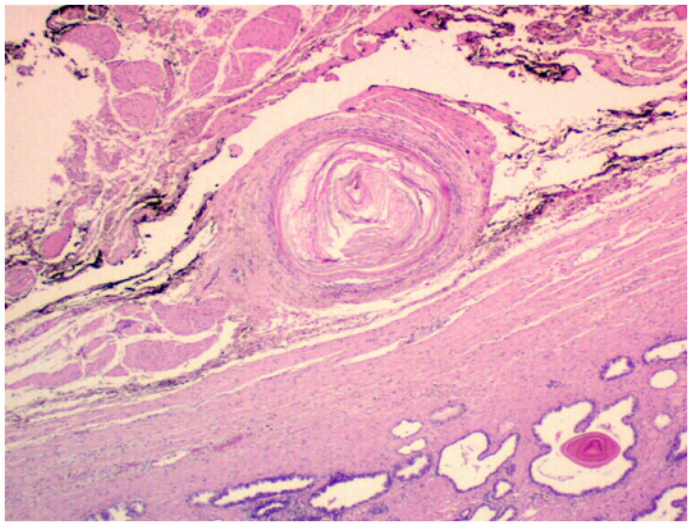

Figure 1: The epidermal cyst is located in the peri-prostatic fatty tissue very close to the parenchyma and shows a tick fibrous capsule lined by squamous keratinizing epithelium also including the granular layer. (Haematoxylin and eosin. Original magnification: 100x).

Discussion

We first report the occasional histological finding of an epidermal inclusion cyst in the periprostatic tissue from a radical prostatectomy for conventional adenocarcinoma. Epidermal inclusion cysts may occur as a result of squamous epithelium sequestration during embryonic development, or as a consequence of traumatic or surgical proceedings, and are exceptionally rare in deep viscera. Interestingly, our patient underwent a prostatic core biopsy, by perineal approach, six months before surgery, thus prompting to speculate that it could be related to the implantation from the overlying epidermis [1-6]. Epidermal cysts need to be differentiated from dermoid cysts, which are relatively common in viscera and in children and adolescents. Differently from dermoid cysts, epidermal cysts affect all age, with a peak of incidence in the middle age, and are devoid of cutaneous adnexa, and are filled up with friable keratinous debris.

Actually, the use of fine needle biopsies is dramatically increased for diagnostic purposes and, obviously, the likelihood of epidermal inclusion cysts could increase too. Therefore, the potential occurrence of an epidermal inclusion cyst should be taken into account, especially when dealing with specimens obtained by core biopsies from unexpected sites, as viscera, or other districts far from the skin. As unexpected, encountering keratinous debris on histopathological core biopsies could be first interpreted as a contamination during embedding the material; but in case of entire epidermal inclusion cyst, it could be mistaken or for metaplastic changes, or even for a malignancy, leading to a misdiagnosis, mostly if crushing artifacts, sometimes existing in needle biopsies, or a heavy inflammatory reaction, and subsequent atypical changes of the squamous epithelium, are manifest [12,14,15].

Moreover, because of poor data availability, we do not know the likelihood and the percentage of malignant transformation of such a lesion, as well in prostate as in other sites, being unknown its long-term clinical implications. In this regard, it is of note that squamous carcinoma is a very uncommon type of prostatic cancer, characterized by a poor prognosis and failure of response to hormonal therapy [12-15]. In addition, the cyst may rupture as a consequence of bioptic procedure, and some keratinous debris could be carried in the parenchyma, producing chemical signs and symptoms, unexpected for clinicians, which may miss the best care possible during the follow-up.

Conclusions

In conclusion, we consider that the knowledge of such a lesion, even in deep viscera like the prostate, may help pathologists in diagnosis, in order to avoid mistakes confusing them with contamination, or, at least, with malignant neoplastic lesions, leading to over-treatment. On the other hand, if it is overlooked, may leave out useful information for urologists in care taking of patient.

Declarations of Interest

None.

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