Renal Epidermoid Cyst: A Case Report

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Received: 19 Oct. 2021; Accepted: 03 May 2022

Abstract- In contrast to epidermoid cysts of the dermis, epidermoid cysts of the kidneys are exceptional. This report explains an uncommon patient with renal epidermoid cyst who presented with flank pain and previous history of renal stones. Our patient underwent excisional resection. The histopathological evaluation discovered cyst wall covering by squamous epithelium and containing keratinous materials compatible with the epidermoid cyst. Based on pathology findings, the patient didn't receive any more treatment. Because pathology evaluation is necessary for the diagnosis or rules out the possibility of malignancy, biopsy before surgery is advised.

Acta Med Iran 2022;60(6):382-383.

Keywords: Epidermoid cyst; Kidney; Renal stone

Introduction

Epidermoid cysts can arise in a variety of sites containing the face, trunk, neck, extremities, and scalp but are uncommon in solid organs, including kidneys (1). The renal epidermoid cyst is believed to originate from epidermis residue from the Wolffian duct or from transitional epithelium metaplasia to squamous by traumatic injuries such as calculus (2). Histopathologic evaluation showed some cystic areas covered by predominantly squamous epithelium and rarely cuboidal cells, which were filled by keratinous materials (3). Although the intra-renal epidermoid cyst is really rare, it has an important clinical implication. Being obviously benign, it can be managed properly by a partial nephrectomy or renal preservation surgery if the preoperative diagnosis is made suspicious (4).

Case Report

A 42-year-old Male with a previous history of renal stones presented in the department of urology at Sina hospital affiliated to Tehran University of Medical Sciences with flank pain from 1 week ago. The symptom was pain without fever or nausea. During the outpatient examination, no tenderness or swelling in the flank was noted. His family and past medical histories were unremarkable. Renal sonography evaluation showed a calcified lesion measuring 2 cm in the greatest dimension in the right kidney. The radiological diagnosis was renal stone. So, our patient underwent excisional resection. He was discharged after excisional surgery with no complications. The specimen for histopathology evaluation contained some fragments of whitish cystic tissue, which was measured totally at 2 x 1 x 0.5 cm. The histopathological evaluation discovered extensive amorphous keratinous materials and some fragments of stratified squamous epithelium (Figure 1).

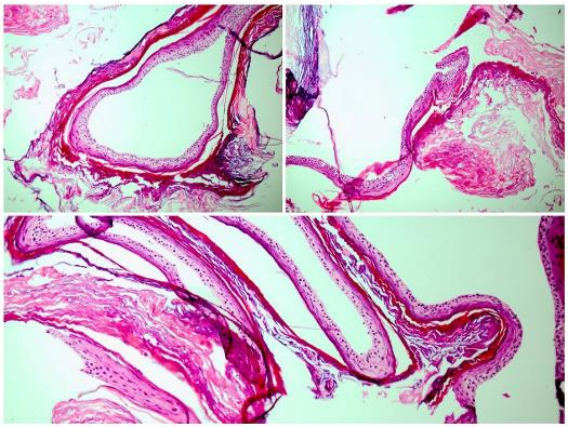

Figure 1. Section revealed extensive amorphous keratinous materials and some fragments of stratified squamous epithelium (H and E X100)

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So, the final diagnosis of our case was based on the histopathological evaluation, which showed cyst wall covered by squamous epithelium comprising keratinous materials was a renal epidermoid cyst. So, the patient needs no further handling based on the diagnosis.

Discussion

Epidermoid cysts are benign cysts confined hardly in solid organs with indistinct pathogenesis (5). The beginning of epidermoid cysts in internal organs, including renal and spleen epidermoid cysts, is indefinite, and traumatic injuries shouldn't be omitted. But it is suggested that epidermis residue from the Wolffian duct are maybe the cause of an epidermoid cyst (6). Some studies supposed that the chronic irritation caused by renal stones may be related to the growth of the renal epidermoid cyst, which we consider in this case occurred (7). Renal epidermoid cyst happens extremely seldom, and limited cases have been informed in the pieces of literature until now (8). Only three cases have been described in the available work written in English, Italian, or German (9). An epidermoid cyst is a benign cyst of ectodermal origin, considered a cystic area covered by squamous epithelium and filled with keratinous materials (10). Transformation to malignancy generally does not happen in epidermoid cysts (11). According to the literature, intra-renal epidermal cysts are commonly cured by nephrectomy for the reason that they cannot be discriminated from renal masses (12). So, the purpose of reporting this case is to highlight its rarity and to make awareness of the entity as a differential diagnosis of cysts in the kidney (13). In the current case, before surgery, the diagnosis of the renal epidermoid cyst was not established. So, this diagnosis must be mentioned in the differential diagnosis of calcified intra-renal lesions. The biological behaviors of intra-renal epidermal cysts are benign rather than aggressive, and comprehensive resection is optimal for treatment (14). Also, the intra-renal epidermal cyst is maybe incidentally be found during the percutaneous nephrolithotomy, which further nephrectomy is not necessary (15).

Renal epidermoid cysts have been described in the medical pieces of literature is limited, and only extremely rare cases are reported. We conclude that intra-renal epidermoid cyst must be mentioned in the differential diagnosis of calcified masses on renal radiologic evaluation. For further patient management, an exact diagnosis is essential.

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