

Special Article - Surgery Case Report

An Unusual Case of Epidermoid Cyst of the Kidney: Case Report and Review of Literature

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Abstract

We report a rare case of epidermoid cyst of the left kidney in a 36-year-old female who presented with complaints of intermittent dull pain in the left loin for 6 months. Imaging revealed a complex cyst of the kidney. The cyst bearing kidney was removed uneventfully. Histopathology confirmed an epidermoid cyst which is an extremely unusual form of renal cystic mass with only few cases reported in the literature.

Introduction

Epidermoid cysts resemble the common epidermal inclusion cyst of the skin. They are characterized by a squamous cell lining and produce keratin debris filling the lumen [1]. The occurrence of these cysts in various internal organs has been reported [2-4]. Renal epidermoid cysts occur very rarely, only few cases have been reported [5-10]. We present a case of complex renal cyst which on histopathology was diagnostic of epidermoid cyst and also review the existing literature on this rare pathology.

Case Description

A 36-year-old female presented with history of dull aching pain in left loin of 6 months duration. She had no complaints of fever, loss of weight or appetite. She had no family history of cystic renal disease. An ultrasound scan of the abdomen showed an 84 mmx55 mm relatively well defined complex echo texture area arising from mid-pole of left kidney with multiple calcifications within, suggestive of complex cyst. CT scan of abdomen, revealed a large 7.2cmx6.2cm lesion, mostly hyper-dense with 110 HU. The cyst wall was thick and dense with calcification (Figure 1). With a provisional diagnosis of cystic renal cell carcinoma, laparoscopic radical nephrectomy was done. Post operatively she recovered well and doing well on follow up.

Histopathology revealed a gross specimen weighing over 100 gms, measuring 12x5x3 cms, with renal cortical thickness of 1.0 cm on cut section (Figure 2). The pelvicalyceal system was distorted by an ovoid mass measuring 10.5 cm x 7.3 cms, firm in consistency, gritty on cut section, filled with gelatinous material. Sections from cystic area showed compressed renal parenchyma with thyroidisation of tubules and the interstitium show lymphoid collections. The lining of cyst was atrophic and flattened. The lumen was filled with dense laminated strands of keratin material with areas of dystrophic material. (Figures 3 & 4) There was no malignancy or parasitic material. The final histopathologic impression was epidermoid cyst with chronic pyelonephritis.

Discussion

Epidermoid cysts of the kidney are extremely rare, unlike their

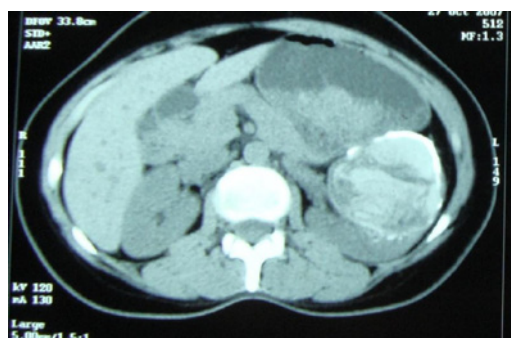


Figure 1: Computerized tomographic image showing the mixed density lesion with calcification with adjacent compressed renal parenchyma.



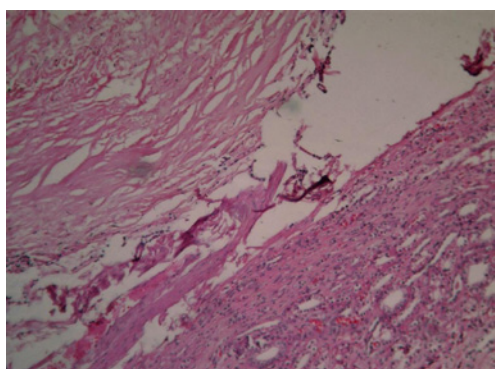
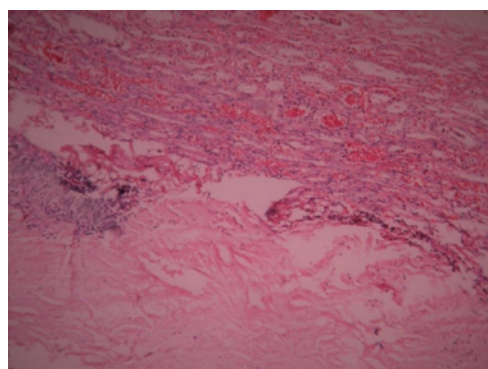
Figure 2: Grossly excised specimen showing the cyst with adjacent renal parenchyma.

preponderance in the rest of the body. Intrarenal epidermoid cysts have been encountered only in eight cases as reported in the English literature [5-11]. The origin of these cysts has been theorized to be due to either aberrant ectoderm implantation during embryogenesis or traumatic metaplasia [8]. According to some, the cyst originated from the embryonic remnant of Wolffian ducts and this hypothesis is considered the most acceptable [8].

The main presenting complaints are loin pain, haematuria and urinary frequency in the cases reported (Table 1). In our case, the

Table 1: Epidermoid cyst of the kidney reported in the literature.

Author	Age	Sex	Complaint	Imaging	Management
Krogdahl	67	M	Recurrent renal colic	Renal cyst	Lower pole partial nephrectomy
Duprat et al	4	M	Frequency	Calcified intrarenal mass	Partial Nephrectomy
Abdou And Assad	67	M	Loin pain	Multilocular cystic mass of the kidney	Nephrectomy
Dadali et al	50	M	Loin pain, haematuria, dysuria	Cystic mass	Nephrectomy
Lim and Kim	51	M	Loin pain and haematuria	Cystic mass lower pole of kidney	Nephrectomy
Emtage and Allen	74	F	Loin pain	Renal mass	Nephrectomy
Desai et al	74	M	Haematuria	Cystic renal mass	Nephrectomy
Rathod et al	52	M	Dysuria, fever, vomiting	Hydronephrotic kidney	Nephrectomy

**Figure 3:** The cyst lining showing keratinized squamous epithelium with lamellated keratin. (H&Ex100 magnifications).**Figure 4:** Cyst wall with adjacent renal parenchyma showing sclerosed glomeruli and tubular thyroidization. (H&E x 100 magnifications).

patient present with dull aching left loin pain. Radiologically there are no characteristic features suggestive of epidermoid cyst. These cysts should be considered in the differential diagnosis of complex renal cysts, especially when they show thick wall and calcification.

As a result, the diagnosis is made most of the times on postoperative histopathology. The typical pathological features are that the cyst is lined by stratified squamous epithelium with a granular layer and filled with keratinous material that is arranged in lamina [8].

Because of the rarity of the cases, no definitive management guidelines can be made. Partial or radical nephrectomy seems to be the appropriate form of management. As these are benign cysts, the prognosis seems to be good.

Conclusion

Epidermoid cyst of the kidney is a very rare entity. High index of suspicion should be made while considering the differential diagnosis for complex renal cyst.

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