Incidentally found intra-renal teratoma in an adult: A case report and review of the literature

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ABSTRACT Teratomas of the kidney are rare, only seventeen cases are reported in adults and children in English literature. We reported a 30-year-old male who presented with a flank mass after stab Injury. Mass involving kidney was excised through lumbotomy. Histopathological revealed features of a mature teratoma presenting. Relevant literature is reviewed.

KEYWORDS Renal mass, Nephrectomy, mature teratoma intrarenalis

Introduction

The term 'teratoma' is derived from the Greek word teratos, meaning 'a monster,' and denotes a neoplasm. The first case was reported approximately 2000 BC [1]. Sacrococcygeal teratoma is the most common followed by gonadal (30%), mediastinal (5%), and retroperitoneal (4%) [2,3]. Teratoma of the kidney is rare, and only 17 cases are reported in English literature. A case of primary renal teratoma in a 30-year-old man is reported with relevant literature review.

Patient and Methods

A 30-year-old man admitted with a protruding mass in left flank a year after a stab injury.

Physical examination revealed a solid mass measuring 10 x 10 cm protruding through a flank wound (figure 1).

A CT Scan of Abdomen (figure 2) showed a heterogeneous mass with calcification originating from the left kidney. Through the lumbar approach, a mass shaped like a malformed fetus arising from the left upper pole of kidney measuring 13.5 x 14.5 x 20 cm was excised (Figure 3).

The histopathological examination shows a tumor composed of tubular and glomerular structures, sebaceous glands, eccrine glands, hair follicles and matrix, connective tissue, and fat tissue. The features were consistent with a mature intrarenal teratoma with interstitial nephritis (Figure 4.). The patient had an unremarkable postoperative course, and there was no recurrence on six years of follow-up.

Figure 1: Tumor appearance.

Discussion

Teratoma is an embryonal tumor composed of tissues from all the three embryonal germ layers and is reported in all of the body [3,4]. Teratomas of the kidney are very rare, and only 17 cases reported worldwide [2-5]. Renal teratoma was first

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Table 1 Cases of intrarenal teratoma before 2015.

Year	patient/sex/age	Diagnosis	Tumor/grade
1934[2]	M / 7 wo	Teratoma + Prune belly syndrome	Immature
1969[2]	M / 71 yo	Malignant embryonal teratoma in duplex kidney	Immature
1973[2]	F / 5 mo	Teratoma + Prune belly syndrome	Immature
1976[2,9]	M / 40 yo	Cystic teratoma with a carcinoid tumor	Immature
1978[2]	NA / 10 wk	Teratoma	Immature
1979[2]	F / died at birth	Teratoma in horseshoe kidney, oligodactyly syndrome	Immature
1980[2]	F / 15 mo	Multiple cystic teratomas with renal dysplasia	Mature
1980[2]	F / 59 yo	Cystic teratoma in a horseshoe kidney	Mature
1983[2]	M / 31 yo	Cystic teratoma	Mature
1984[9]	M / 65 yo	Teratoma	Mature
1984[2]	M / 3 mo	Teratoma	Immature
1987[2]	F / 3 mo	Teratoma	Immature
1990[2,9]	M / 2 mo	Teratoma	Immature
1991[2]	F / 25 yo	Teratoma	Immature
1997[2,9]	M / 23 yo	Teratoma with a carcinoid tumor, horseshoe kidney	Immature
2000[2,9]	F / 34 mo	Mixed immature teratomas and yolk sac tumor	Immature
2001[2,9]	F / 3 yo	Mature teratoma and synchronous malignant neuroepithelial tumor of the ipsilateral adrenal gland	Mature
2001[2,9]	M / 6 yo	Mature cystic teratoma	Mature
2002[2,9]	F / 30 yo	Mature teratoma with a carcinoid tumor	Immature
2003[2,9]	F / 2 mo	Mature cystic teratoma	Immature
2004[2,9]	F / 39 yo	Mature teratoma with a carcinoid tumor	Immature
2005[11]	F / 39 yo	Renal teratoma	Mature
2005[9]	F / 58 yo	Mature teratoma	Mature
2005[2,9]	F / 4 yo	Mature teratoma	Mature
2006[9]	M/ 4 yo	Mature teratoma	Mature
2006[9]	F / 6 do	Intrarenal teratoma and horseshoe kidney	Mature
2007[12]	F / 25 yo	Mature cystic renal teratoma	Mature
2007[9]	F / 35 yo	Mature teratoma	Mature
2009[4]	M / 35 yo	Primary intrarenal teratoma	Mature
2009[13]	F / 50 yo	Synchronous primary carcinoid tumor and adenocarcinoma within mature cystic teratoma of horseshoe kidney	Mature
2009[9]	M / 1 mo	Renal teratoma	Mature
2011[8]	M / 6 mo	Intrarenal mature cystic teratoma with renal dysplasia	Mature
2013[9]	F / 6 mo	Primary renal teratoma	Mature
2013[14]	M / 37 yo	Primary carcinoid tumor in a mature teratoma of the horseshoe kidney	Mature
2013[6]	F / 5 mo	Renal teratoma	Immature
2014[5]	M / 2 yo	Cystic renal teratoma	Mature
2015[3]	M / 26 do	Renal teratoma with cystic dysplasia	Mature
2015(present case)	M / 30 yo	Intra-renal teratoma	Mature

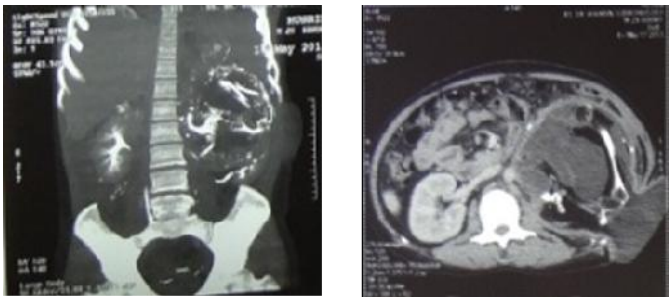

Figure 2: Axial and coronal view CT scan urography.

Figure 3: Tumor masses consist of extremities, with hair and nails on edge.

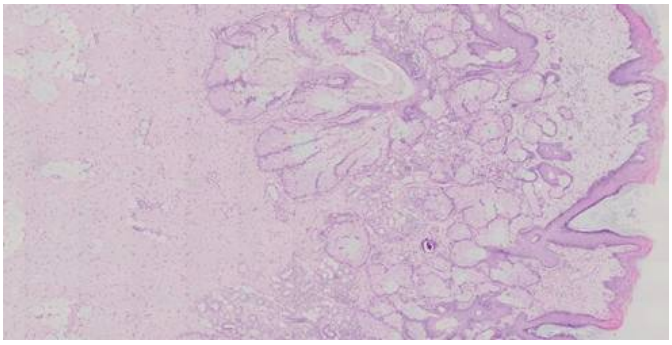

Figure 4: Mature teratoma and interstitial nephritis.

described by McCurdy in a child with prune belly syndrome in 1934 (table 1). Choi et al. [2] reviewed 20 cases of renal teratoma from 1934 to 2005. Details of reported cases are depicted in Table I.

The majority of the patient generally had a good outcome. However in few cases metastasis is reported[4,6].

In our opinion, computerized tomography (CT scan) and MRI are useful imaging modalities and can help of differentia renal teratoma from Wilms tumor, neuroblastoma, retroperitoneal teratoma, hydronephrosis inclusion cyst as a result of stab injury in lumbar region as is observed in the reported case and Fetus in fetu (FIF).

Nephrectomy is recommended as the treatment of choice, and chemotherapy is not usually required. Patients immature teratoma can be effectively treated with surgical excision alone, with a survival rate of more than 85% [6,9].

A Long term follows up including physical examination, Alpha fetoproteins and cross-sectional imaging required to detect recurrence [2,4]. In conclusion, we reported a case of primary renal teratoma, which was successfully treated with surgery only.

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Competing interests

The authors declare no conflict of interest.

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