Postgraduate Medical Journal (February 1983) **59**, 111–112

Intrarenal teratoma

S. B. PRASAD
B.Sc.(Hons), M.B.B.S., F.C.G.P., M.R.S.H., M.S. (Gen. Surg.)

Upgraded Department of Surgery, Derbhanga Medical College, Laheriasarai-846003 (Bihar), India

Summary

Intrarenal teratomas are extremely rare. A case of intrarenal teratoma in an adult is reported.

KEY WORDS: kidney, teratoma.

Introduction

There have been numerous reports of teratomas occurring in the retroperitoneum (Arnheim, 1951), particularly in infants and children. However, intrarenal teratomas are extremely rare; five cases only have been reported to date, 3 in children and 2 in adults. A further case in an adult is reported here.

Case report

A 31-year-old man reported with the complaint of an abdominal mass on the right side of 10 years duration. He had upper abdominal discomfort and flatulence. There were no urological complaints. His past medical history was not contributory.

Abdominal examination revealed a fixed, non-pulsatile mass in the mid-abdomen on the right side. The mass was ballotable and not tender. Physical examination was otherwise normal.

Renal and liver function tests, as well as haematological studies, were normal. A plain abdominal and chest X-ray were normal. An excretory urogram (I.V.P.) showed a lucent mass in the right kidney with a normally functioning left kidney (Fig. 1).

Surgical exploration through an anterior subcostal transperitoneal incision revealed an enlarged right kidney with a large cystic tumour involving its middle part. A right nephrectomy was done to remove the right kidney with the cystic lesion. The postoperative recovery of the patient was uneventful.

The pathological examination of the removed kidney revealed a cystic mass which had a smooth muscle wall lined partially by transitional and mucous epithelium. It contained thick fluid. The tumour had areas that resembled an angiolipomyoma and others that contained glial cells, ciliated epithelium and tissues strongly suggestive of ovarian stroma. The histopathological diagnosis was consistent with benign cystic teratoma (Figs 2 and 3).

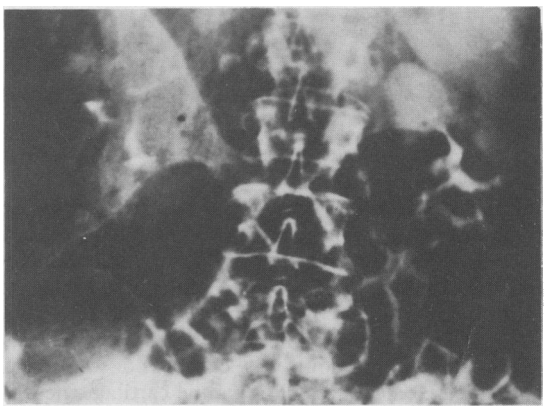

FIG. 1. Excretory urogram showing lucent mass in right kidney.

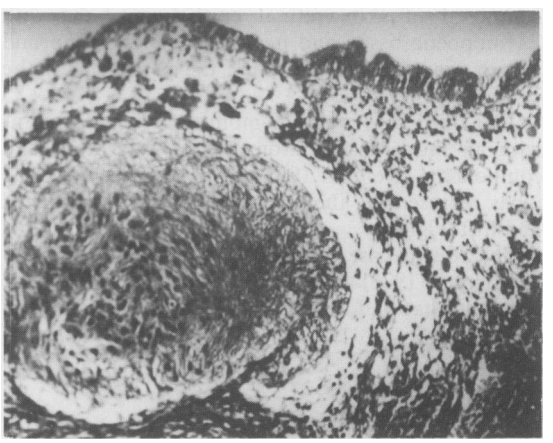

FIG. 2. Low-power microphotograph showing cyst lined by ciliated columnar epithelium (respiratory type) with underlying nodule of smooth muscle (HE, ×32).

Discussion

The kidney is one of the least common sites for teratomas and other germ cell tumours. Five cases of

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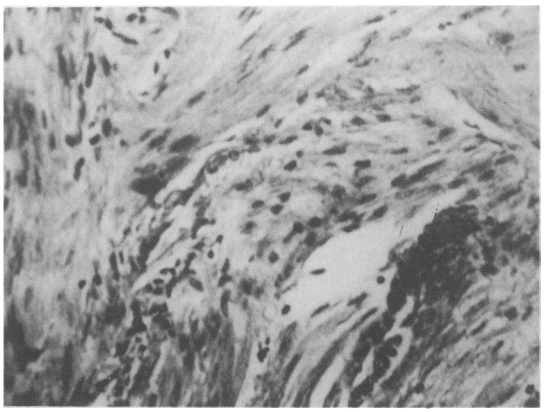

FIG. 3. High power microphotograph showing smooth muscle bundles in portion of the lesion (HE, ×100).

intrarenal teratomas have been reported previously including 3 in infants and 2 in adults. The earliest case was found on an autopsy examination in the retroperitoneum of a 7-week-old male newborn infant with 'prune belly' syndrome (McCurdy, 1934). A large mass with a rim of renal parenchyma was identified. The tumour was cystic and solid, and contained elements of skin, hyaline cartilage, neuroepithelium and foci resembling immature kidney.

The second case of intrarenal teratomas was described by Bilger, Stoll and Raiga (1952), in a 7-year-old girl who presented with a left-sided abdominal mass. The tumour was predominantly cystic and composed of skin, retinal epithelium, bone with haemopoetic tissue and neuroglia. A rim of normal kidney was compressed along the periphery of the cyst.

The third case was a 5-month-old female infant with an intra-renal teratoma with cystic and solid components (Dehner, 1973). A wide variety of tissue types representing the 3 germ cell layers was identified histologically.

The fourth case was reported by Kojiro, Ohishi and Isobe (1976) in a 40-year-old man with cystic teratoma that had a carcinoid tumour arising within it. This is the only reported case of a malignant tumour arising in an intrarenal teratoma.

The fifth case was reported by Glazier, Lytton and Tronic (1980). This case report was of a 59-year-old woman presenting with an abdominal mass on the left side. There was a benign cystic teratoma in a horse-shoe kidney. The present case represents the sixth case of benign cystic intrarenal teratoma, the third such case reported in an adult.

Teratomas have cystic and solid components, which might cause some confusion in diagnosis. Being relatively avascular, they may be mistaken for simple cysts. However, a wide variety of tissue types representing the 3 germ cell layers make them distinctive histologically. Teratomas are usually benign, although malignant metastases have been seen in some well-differentiated teratomas of other organs and could presumably occur with those arising in the kidney. Although true intrarenal teratomas are extremely rare they must be considered in the differential diagnosis of abdominal masses in children and adults.

Acknowledgments

I am thankful to Dr K. Prasad, M.S., F.R.C.S., Retired Director-Professor of Surgery, Upgraded Department of Surgery, D.M.C. and the Superintendent, D.M.C.H., Laheriasarai for their kind help and permission to report this case.

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(*Accepted* 11 *June* 1982)