

# ADENOCARCINOMA OF THE KIDNEY IN A 17 YEAR OLD ZAMBIAN MALE

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## Summary

A case of adenocarcinoma of the kidney in a 17 year old Zambia male has been presented; the rarity of this tumour in children emphasized. It has been suggested that one should not altogether exclude renal cell carcinoma in the differential diagnosis of a typical renal mass in a young patient.

## Introduction

Adenocarcinoma of the kidney is a relatively uncommon disorder and accounts for some 3% of all malignancies (Kantor, 1977). It is predominantly observed in males (M: F = 3:1) and the median age at diagnosis is usually 55 years. Such a tumour is most unusual in children; until 1974 reports of a mere 150 cases under 18 years have appeared in the world literature (Ronald et al, 1974). The following is the report of a case in a 17 year old **Zambian male**, recently managed in the Urology Unit of the University Teaching Hospital, Lusaka.

## Case Report

**F.H.**, a 17 year old African male presented to the urology outpatient with a nine month history of intermittent painless total haematuria. He denied any other significant symptoms except an occasional sense of heaviness over the left upper abdomen. He appeared well nourished, not distressed with a normal pulse and a blood pressure of 120/80 mm Hg. The only abnormal physical finding was the presence of a firm, smooth and fixed left subcostal mass (6" x 4"). It was not ballotable and appeared minimally tender on deep palpation. The laboratory investigations included Hb 15gm%, urea 20mg% and creatinine 1.2mg%. A chest xray was normal, whilst a straight xray suggested the presence of a lobulated left upper abdominal soft tissue mass with a central area of linear calcification (Fig. 1). An intravenous urogram showed a

normal right kidney; the left kidney remained non-functioning at 48 hours. A free flow aortogram (Fig. 2) revealed a markedly narrow left renal artery and superomedial displacement of the splenic artery; the upper half of the mass was relatively avascular and its lower half was only sparsely vascular. An ultrasound scan demonstrated transonic and echogenic areas (Fig. 3) but failed to delineate a left kidney outline. A percutaneous antegrade pyelogram produced a haemorrhagic aspirate and outlined a smooth walled cystic area corresponding to the upper pole of the mass while its lower pole appeared solid; the injected dye also outlined a normal left ureter with a filling defect at the pelvic-ureteric junction (Fig. 4). The patient ultimately underwent a left nephrectomy through a paramedian transperitoneal approach. The mass, at surgery, was found to consist of a grossly enlarged left kidney with marked hilar fibrosis. The liver felt normal and there was no enlarged para-aortic lymph nodes. He recovered through an uneventful post-operative period.

## Gross appearance and histology

The kidney (fig. 5) weighed 420 G; on cut section it was grossly hydronephrotic with a partially circumscribed yellowish tumour mass at its lower pole. The hydronephrosis was secondary to the deposition of multiple tumour nodules in the proximal ureteric lumen. The capsule could be easily stripped without any evidence of transcapsular spread. Histology of the kidney and the ureteric nodules showed well differentiated renal cell carcinoma with focal dystrophic calcification (Fig. 6). The perinephric lymph nodes revealed non-specific hyperplastic type of changes.

## Discussion

The many years of controversy over the histogenesis of renal adenocarcinoma has at last been brought to an end by the electromicroscopic documentation (Thackary,

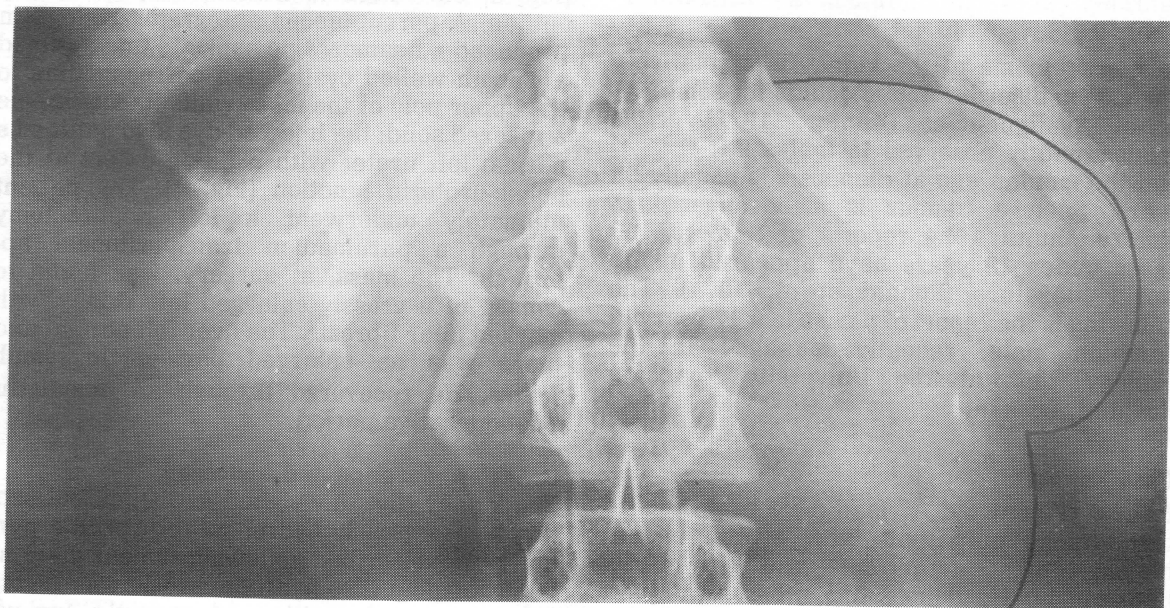
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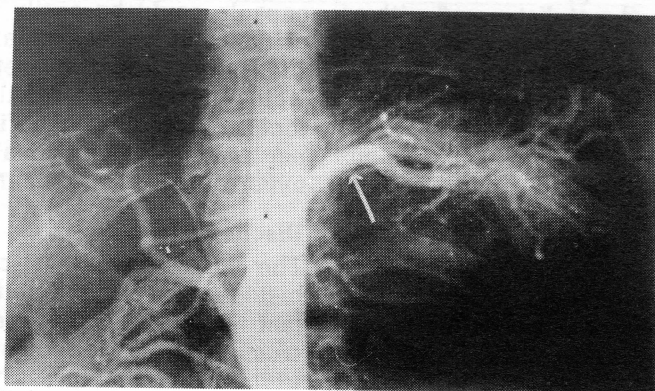
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1976) of its origin from the renal tubular cells. Controversy, though, still prevails as to the causal relation between renal adenoma and carcinoma of the kidney; whether adenocarcinoma of the kidney arises *denovo* from renal tubular cells or by evolution through an initial adenomatous hyperplasia of these cells remains a matter for conjecture. There, however, exists no doubt as to its extreme rarity in children and young adults. Neither there is any evidence to suggest that such a tumour behaves any differently in children (Manson et al. 1970). A striking similarity in the clinical presentation, spread and prognosis of renal adenocarcinoma in both age groups have been observed by the same authors. One is likely to experience significant difficulty in the

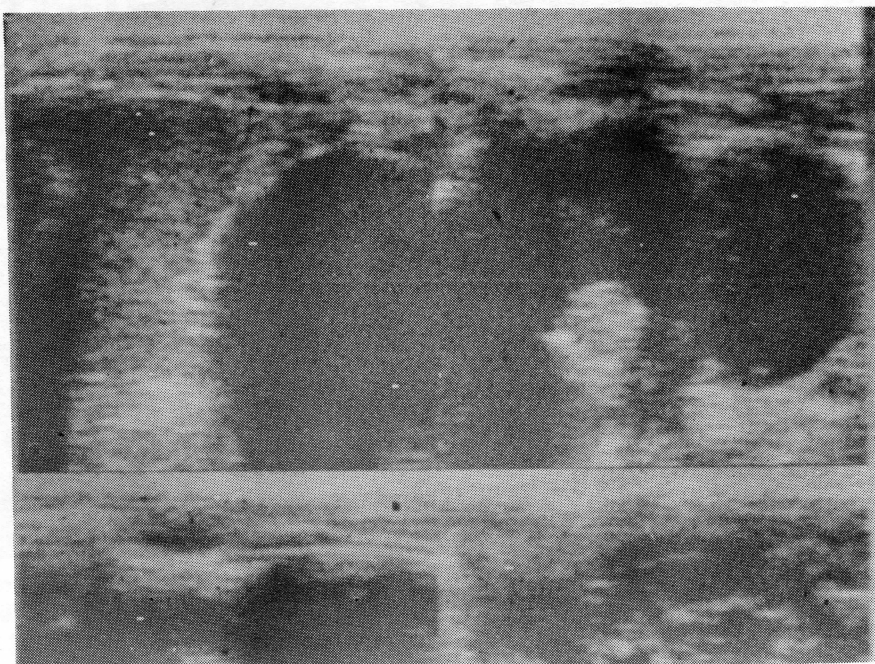
diagnosis of a renal mass with or without haematuria in a young adult, who is well past the usual age of Wilms tumour but much younger for adenocarcinoma. The diagnostic difficulty in the case under discussion was further enhanced by the presence of radiological non-function of the affected kidney and the relative avascularity of the lesion, due probably to associated hydronephrosis. The importance of ultrasonogram in the investigation of a non-functioning renal mass is also well documented in this case. This report serves to emphasize that renal adenocarcinoma, though extremely uncommon in younger patients, should not be altogether excluded from the differential diagnosis of an atypical renal mass in this age group.



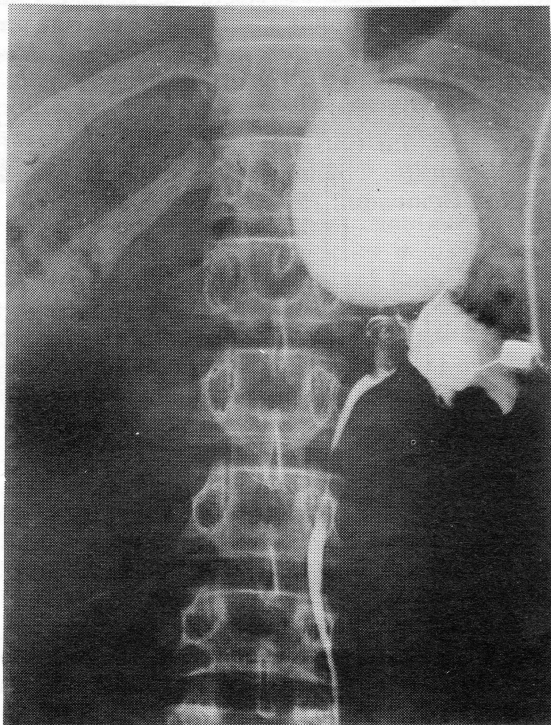
**Fig. 1.** Lobulated left sided soft tissue mass (outlined in black) and a normal right kidney.



**Fig. 2.** Free flow aortogram showing displaced splenic artery (arrow) and differential vascular patterns of the upper and lower part of the soft tissue mass.



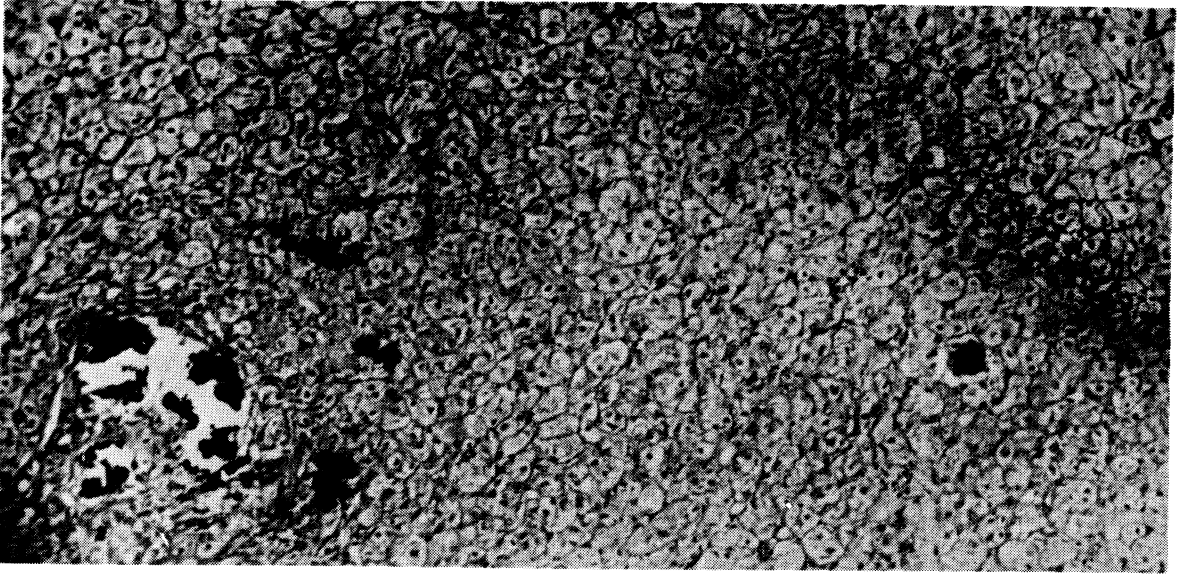
**Fig. 3.** Ultrasonic scan of the mass showing a mixture of echogenic and transonic areas.



**Fig. 4.** Antegrade pyelogram outlining a proximal cystic area and solid lower pole with a filling defect at pelvi ureteric junction.



**Fig. 5.** Section of the kidney showing hydronephrosis of the upper pole and the tumour occupying the lower pole.



**Fig. 6. Histology showing classical clear cell carcinoma with areas of calcification (H & E x 25).**

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