Situs inversus with renal neoplasm: a case report.

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This is a case report of a 43-year male patient who presented at the University Teaching Hospital (UTH), Lusaka, Zambia with a histologically proven renal cell carcinoma and during the course of the investigations, the patient was also found to have situs inversus totalis.

Introduction

Situs inversus is a rare condition. Its frequency is reported to be between 1 in 8000 to 1 in 20,000. It may be total (situs inversus totalis) or incomplete in less than 10% of cases. Situs inversus may be associated with other conditions such as duodenal atresia and ectopic kidney. This paper describes a case of situs inversus, which presented with a renal cell carcinoma in 43-year-old male.

Case Report

M.M., a 43-year-old male presented at the University Teaching Hospital (UTH), Lusaka, Zambia with complaint of a slowly growing painful epigastric swelling. He gave no history of any previous admission to hospital or any history suggestive of any developmental anomalies. He denied any history of urinary or Gastrointestinal symptoms.

On examination, he was found to be markedly wasted with an absent apical cardiac beat on the left side. He had a normal blood pressure. On palpation of the abdomen, there was a firm hard mass in the upper abdomen, which clinically we thought was arising from the liver, possibly a hepatocellular carcinoma. The testes were normal and equidistant. There was dextrocardia on the chest x-ray (Fig I). CT scan showed a mass arising from the anterior aspect of the kidney and the liver on the left side (Figure II). Ultrasound and Barium contrast studies confirmed the diagnosis of situs inversus abdominis (Figs III and IV). At operation, situs inversus abdominis was confirmed. A mass was found which was fixed and involved the stomach, liver and pancreas.

The kidneys were slightly enlarged but macroscopically looked and felt normal. A biopsy was taken from the mass. The histology was reported as clear cell carcinoma of the kidney with liver metastases (Fig. V)

Fig. I

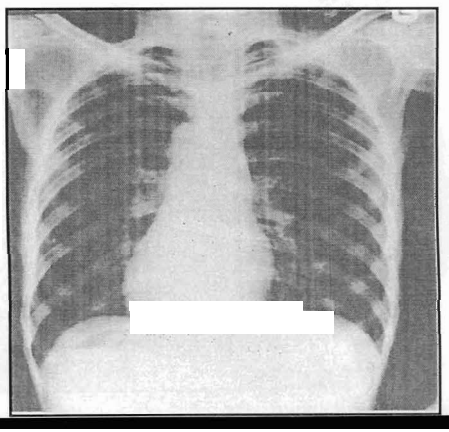


Fig. II

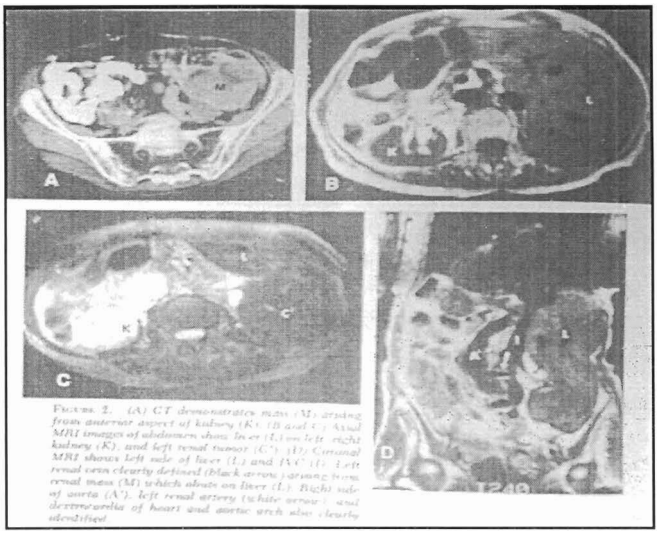


Fig. III

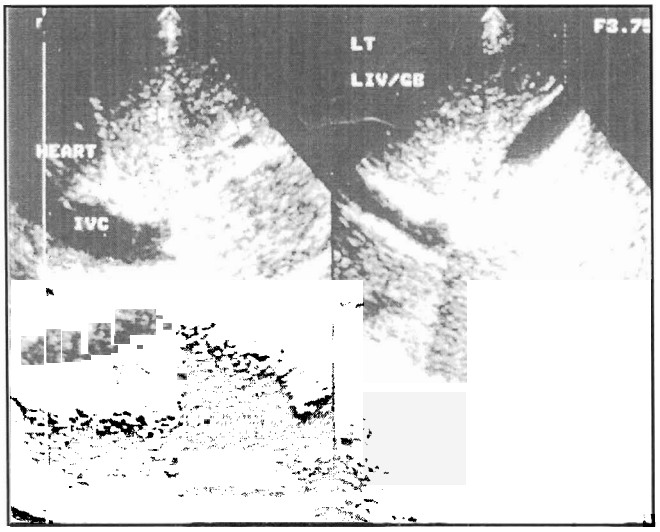


Fig. IV

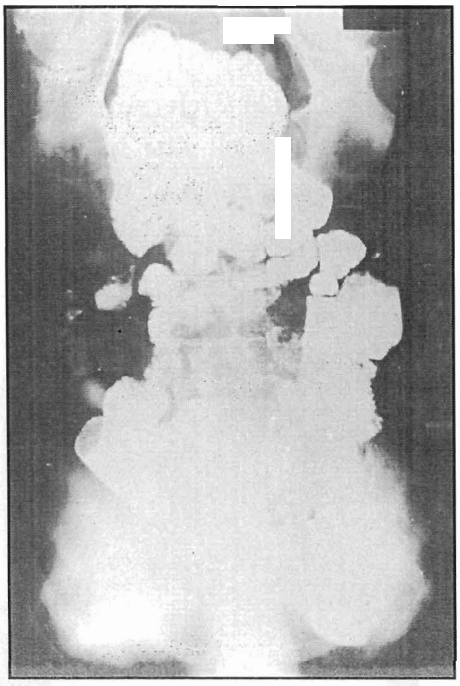
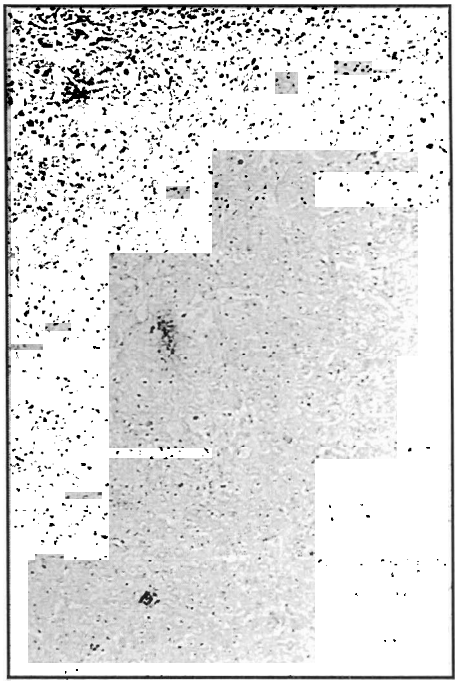


Fig. V



The patient was discharged a week after surgery but was readmitted two days later with bilateral dry gangrene of the lower limbs which we attributed to a paraneoplastic syndrome. He died eleven days after the second admission.

Discussion

Situs inversus totalis is a rare congenital anomaly reported to occur in 1 in 8000 to 1 in 20000 patients. It may be total (situs inversus totalis), when it involves both the thoracic and abdominal organs, or may, in less than 10% of cases, be incomplete when either the thorax alone or abdomen is affected. Situs inversus may be associated with other congenital anomalies such as duodenal atresia, aspleenism, multiple spleens,

ectopia kidney, horseshoe kidney and various pulmonary and vascular abnormalities.

Only nine cases of neoplasms in situs inversus have been reported in literature and have included carcinomas of the thyroid, pancreas and kidneys. In 1993,Treiger et all from John Hopkins reported the second recorded case of clear cell carcinoma of the kidney in a patient with situs inversus totalis. Ours is the third such reported case. It has long been known that anatomic developmental abnormalities of viscera may predispose to malignancy as is the case undescended testes. However, a review of the current literature has not reported any association between kidney ectopia and malignancy. Clear cell carcinoma has also been known to be associated with paraneoplastic syndromes some of which include hypercalcaemia, hyperglycaemia, hypertension and polycythaemia with clotting abnormality. Our patient had a persistently high haemoglobin and finally developed bilateral dry gangrene of the lower limbs suggestive of presence of polycythaemia and hypercoagulability. It is worthwhile noting that traditionally patients with situs inversus present with signs, which may be difficult to interpret such as those of appendicitis or cholecystitis. When surgery is anticipated patients with situs inversus there is need to carefully plan and evaluate the location of the skin incision. The malignancy potential must be borne in mind in all cases of situs inversus.

In conclusion, situs inversus does occur in Africa and may first present itself with a surgical condition. Our case is the third reported case worldwide of situs inversus associated with renal cell carcinoma. Congenital abnormalities of the kidney may well predispose patients to clear cell carcinoma. It is recommended that in situs inversus, a high index of suscipicion is necessary to avoid missing malignancies that are known to be associated with this condition. All cases of situs inversus should have an intravenous urogram. One should always bear in mind the possibility of development of paraneoplastic syndromes in this condition.

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