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Unusual renal manifestations of choriocarcinoma

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Summary

The cases of two young Nigerian women, who presented with profuse haematuria and renal enlargement secondary to metastatic infiltration from choriocarcinoma in the absence of primary malignant uterine foci are reported and discussed. The rarity of this mode of presentation of choriocarcinoma is highlighted.

Résumé

Ont été rapportés et discutés les cas de deux jeunes nigériannes qui ont présentées l'hématurie abondante et l'hypertrophie rénale à la suite de l'infiltration métastatique du choriocarcinome sans manifester des foyers primaires malignes de l'utérine. La rareté de ce mode de présentation du choriocarcinome est mise en lumière.

Introduction

Choriocarcinoma has been described as a great imitator because of its ability to metastasize to many organs and, having the tendency to present in a variety of guises it can, thus, be mistaken for other diseases (Adeloye *et al.*, 1972). It is the third most common malignant tumour in Nigerian females and the kidneys are the fifth commonest site of predilection for metastases in the autopsied patients with this disease in Ibadan, Nigeria (Junaid *et al.*, 1972).

Renal enlargement from metastatic tumours and infiltrations in leukaemic and lymphomatous patients is well recognized, but it is unusual for a metastasis to the kidney to present as a solitary renal mass lesion or to cause acute urinary tract symptoms (Klinger, 1951; Bosniak *et al.*, 1969).

It is, therefore, the purpose of this communication to document our recent experience of the most unusual manifestations of choriocarcinoma in two young Nigerian females who both presented with profuse painless haematuria. One had unilateral renal enlargement and the other bilateral renal enlargement secondary to metastatic infiltration from choriocarcinoma.

Case reports

Case 1

O.I., a 29-year-old female, was admitted on 3 October 1984 to the Urology Unit of the University College Hospital (UCH), Ibadan for profuse painless haematuria of 2 days' duration. There was no history of trauma. She had earlier been seen and treated, 5 weeks before, at Ijebu-Ode State Hospital for incomplete abortion of a 2-month pregnancy, where she had dilatation and curettage, followed by parenteral ergometrine and hydrocortisone. The bleeding stopped. However she was transfused with 3 pints of whole blood for excessive blood loss.

On admission, at the UCH, she was observed to be a pale, febrile and anxious lady. There was no peripheral lymphadenopathy and the thyroid gland was not enlarged. She had a thready pulse with a pulse rate of 120/min. Her blood pressure was 100/60 mmHg and her packed-cell volume was 17% with a white blood count of 5700/cmm. There were no respiratory or neurological signs and symptoms.

Abdominal examination revealed a moderately palpable right kidney but no hepatosplenomegaly. On vaginal examination, the uterus was normal but there was a slightly tender mobile right adnexal mass thought to be an ovarian cyst. Abdominal ultrasound scan showed bilaterally enlarged kidneys, each containing solitary solid strongly echogenic area, the one on the right being much bigger than the one on the left. Both ovaries were

enlarged and cystic but the uterus was normal and empty. Excretory urography confirmed the mass lesions in the enlarged kidneys with some distortion of the calyces.

Her chest X-ray showed a nodular opacity at the left lung base, but the skull X-ray was normal. Renal angiography was then undertaken and this revealed a huge highly vascular mass lesion in the right kidney with large vascular channels, and tumour staining. A smaller but also vascular mass lesion with obvious pathological circulation was also identified in the left kidney (Fig. 1).

deteriorated despite blood transfusion and antibiotic therapy, and she died on 21 October 1984.

Post-mortem confirmed that the right kidney was grossly enlarged and almost totally replaced by a large spongy haemorrhagic tumour measuring 10 cm in diameter. The left kidney was moderately enlarged and contained a tumour of similar morphology to the right with a diameter of about 5 cm. Both ovaries were enlarged, multicystic and haemorrhagic with a diameter of about 7.5 cm each. The uterus was not enlarged and the endometrium was clear. A

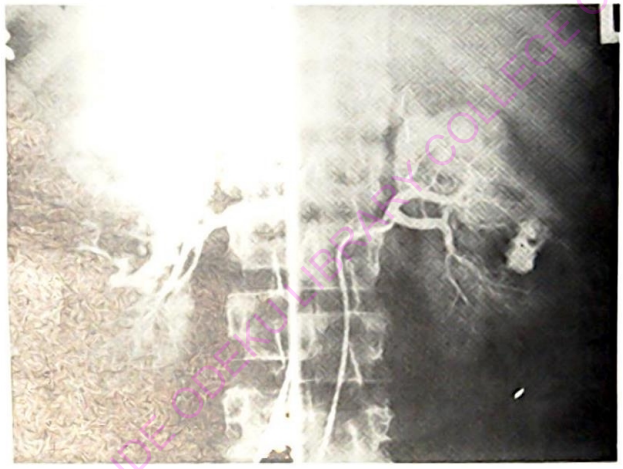

Fig. 1. Renal angiogram on Case 1, showing a huge highly vascular tumour mass in the right kidney. A similar but smaller mass lesion is also shown in the left kidney.

The pelvic angiogram was essentially normal. The possibilities at this stage included bilateral renal carcinoma, haematomas of tuberous sclerosis (formes frustes type), lymphomatous or leukaemic infiltration of metastatic deposits from highly vascular primary tumours such as choriocarcinoma or thyroid carcinoma.

A pregnancy test was done and was positive while qualitative human chorio-gonadotropins (HCG) assay was also reported positive. The patient was then considered to be a case of malignant trophoblastic disease. Cancer chemotherapy was to be commenced immediately but the patient's condition had further

large soft haemorrhagic tumour mass was seen at the left lung base, and also at the base of the right temporal lobe of the brain. Histology confirmed choriocarcinoma in all these tumour masses (Fig. 2).

Case 2

I.A., a 25-year-old female, was admitted to a medical ward of UCH in March 1984 with a history of fever, cough with haemoptysis and intermittent profuse haematuria of 3 weeks' duration. She aborted a 7-week pregnancy,

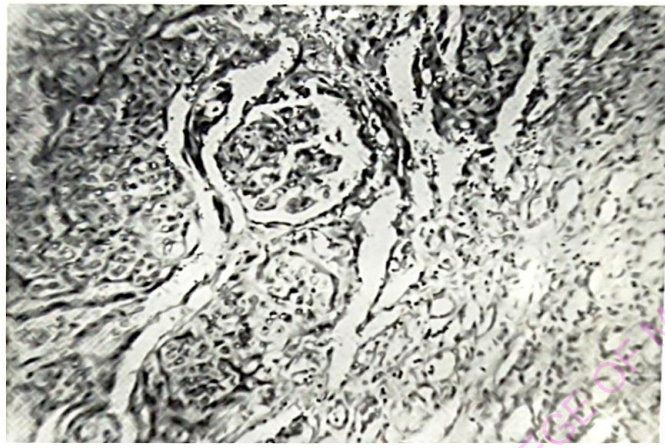

Fig. 2. Microscopy of the kidney on Case 1, showing choriocarcinoma infiltrating and replacing renal parenchyma. Note sheets of cuboidal clear cells surrounded by syncytial cells with polygonal cells and small hyperchromatic nuclei with high mitotic index.

3 months before the onset of her present symptoms and had been appropriately treated.

On examination, she was ill-looking, pale, emaciated and slightly jaundiced. There was no peripheral lymphadenopathy and the thyroid gland was normal. There were no abnormal neurologic signs. Auscultation revealed scattered crackles in both lung fields, while abdominal examination showed a full abdomen with a ballotable right kidney but hepatosplenomegaly. Vaginal examination also revealed a normal uterus with no adnexal masses or tenderness, and there was no vaginal bleeding. She was anaemic with a packed-cell volume of 20%, and pregnancy test was positive. Excretory urography and abdominal ultrasound examinations disclosed a very large space-occupying lesion in the right kidney with distorted calyces. The left kidney, the uterus and the ovaries were normal at ultrasonography.

Renal arteriography confirmed a very large and vascular tumour virtually replacing the entire right kidney (Fig. 3). Pelvic angiography was unremarkable, but the chest X-ray showed multiple nodular opacities in both lung fields.

A diagnosis of primary renal carcinoma with secondaries in the lungs was made; but in view of the positive pregnancy test and previous history of an abortion months before, although with negative pelvic findings, malignant trophoblastic disease with metastases to the kidney and lungs was entertained. The patient was accordingly commenced on cytotoxic drugs after blood transfusion, but she died after only 4 days of treatment.

Post-mortem confirmed the presence of trophoblastic tissue infiltrating the entire right kidney, and in the haemorrhagic tumour deposits in the lungs. No primary malignant focus was identified within the uterus.

Discussion

These two patients are of particular interest for four reasons. Firstly, the initial presentation of choriocarcinoma as an acute renal problem of profuse painless haematuria is most unusual. A search of the world literature yielded only a previous single and similar case report by Patrick, Norton and Dasco (1967). Choriocarcinoma demonstrated a high incidence of metastases and renal involvement is not uncommon at autopsy (Park & Lees, 1950; Junaid *et al.*, 1972). While the pathologist not infrequently finds metastatic neoplasm in the kidney at autopsy, the finding is rarely studied clinic-

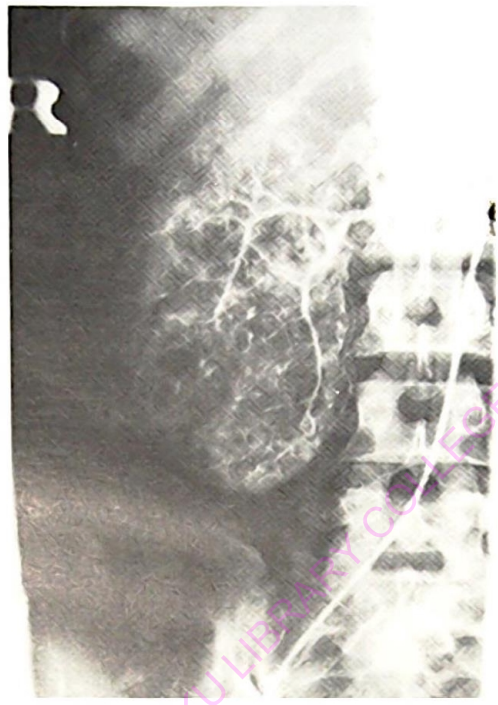

Fig. 3. Renal angiogram on Case 2, showing a very large and vascular tumour replacing the entire right kidney

ally. This is probably because patients with widespread metastatic disease do not usually live long enough for symptoms to develop from the metastatic foci in the kidney, which would then require clinical evaluation.

Secondly, there has been only one documented case of bilateral renal enlargement due to metastatic choriocarcinoma studied with excretory urography and angiography in the world literature (Kumar & Chakera, 1982). Our Case no. 1 is, therefore, being documented as the second. Most of the metastatic lesions involve only one kidney and the commonest primary pathology showing bilateral renal involvement in Klinger's series of 5000 autopsies were lymphomas (including acute and chronic leukaemia, lymphosarcoma and Hodgkin's disease). Takaysau *et al.* (1968), however, also reported a case of bilateral renal metastatic tumour originating from a thyroid carcinoma.

Thirdly, although the case reported by Patrick *et al.* (1967) showed an avascular mass lesion at angiography, the cases reported here showed very vascular tumour masses similar to that reported by Kumar and Chakera (1982). The detection of unilateral or bilateral vascular renal masses in a woman of child-bearing age should always raise the possibility of metastatic infiltration from choriocarcinoma especially in an environment like Nigeria, where there is a high incidence of the disease condition.

And, finally, the absence of a naked-eye uterine lesion in the presence of metastases, and in the absence of any effective cancer chemotherapy, as in our patients, is not common but a well-known peculiarity of choriocarcinoma, and has been ascribed to a number of possibilities: origin from a teratoma, spontaneous disappearance of the primary disease, malignant transformation of trophoblastic

cells carried to extra-uterine foci in the course of pregnancy, or origin from an ectopic focus (Adeloye *et al.*, 1972).

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