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Carcinosarcoma of the adult kidney

M. S. RAO
M.B., B.S., M.D.

L. G. LOTUACO
M.D.

D. H. MCGREGOR
M.D.

*Department of Pathology, Northwestern University Medical School,
303 East Chicago Avenue, Chicago, Illinois 60611, and
Veteran's Administration Hospital, Kansas City, Missouri 64128*

Summary

Carcinosarcoma of the adult kidney is a very rare tumour and there are only a few well documented cases in the literature. In this report such a tumour is described from a 50-year-old white male, which progressed very rapidly with widespread metastases. Histologically, the tumour consisted of renal cell carcinoma and fibrosarcomatous components. The interesting features in this case were that both the carcinomatous and sarcomatous elements of the tumour exhibited metastases separately to various organs.

Introduction

Carcinosarcomas are rare tumours and are known to occur in a wide variety of organs, such as uterus,

breast, oesophagus, larynx, lungs, urinary bladder, prostate, oviducts and kidneys with a variable frequency. The term carcinosarcoma implies a mixed neoplasm containing both epithelial and mesenchymal elements, each of which displays a different morphological and biological criterion of malignancy (Batsakis, 1974). Since the original description of these tumours by Virchow (1864), the histopathology of carcinosarcomas has become a controversial subject. Many cases of carcinosarcoma reported previously in the literature were repudiated by Saphir and Vass (1938) who claimed that the sarcomatous elements are either variants of epithelial cells or stromal reaction to an epithelial cancer. Later on, Lane (1957) suggested the metastatic ability of the sarcomatous component as a criterion for the diagnosis of carcinosarcoma, in the absence of which he preferred the term 'pseudosarcoma'.

In this report a carcinosarcoma of the adult

Correspondence: Dr M. S. Rao, Department of Pathology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Illinois 60611, U.S.A.

kidney is described, belonging to composition tumour of Meyer's (1919) classification, where the epithelial and sarcomatous elements have metastasized separately to different sites.

Case report

A 50-year-old Caucasian male underwent laminectomy for herniated lumbosacral intervertebral disc in November, 1975. Histopathology of the laminectomy material was interpreted as metastatic anaplastic carcinoma from an unknown primary. Later that month, he was referred to Kansas City V.A. Hospital for further evaluation. On admission he appeared chronically ill. The clinical examination revealed a grade 1 systolic ejection murmur at the left sternal border and a 1 cm nodule in the skin behind the left ear. Barium meal series of the gastrointestinal tract, intravenous pyelogram, bone, brain and thyroid scan, and radioiodine uptake studies were interpreted as normal. The whole lung laminograms revealed multiple pulmonary nodules and an ill defined paramediastinal infiltrate. Urinalysis showed 15–30 WBC/high power field and no red blood cells. The patient denied haematuria at any time. The other pertinent laboratory data were, haemoglobin 8.1 g/dl, RBC $3.3 \times 10^9/l$, and alkaline phosphatase 208 mu./ml.

Starting on December 11, he received 3000 rads of cobalt to the lumbosacral spine over a period of 16 days. During this period a gingival mass in the upper jaw and multiple subcutaneous nodules appeared and grew rapidly. In addition to radiation, he was given chlorethyl-cyclohexyl-nitrosourea 120 mg p.o. and cyclophosphamide 200 mg i.v. daily from the first week of January 1976, without any response. His condition gradually deteriorated and he died on 11 April 1976.

At post-mortem, the right kidney weighed 640 g and the upper half of the kidney was replaced by a tumour measuring 8 × 6 cm. The external surface of the tumour was nodular and the capsule was firmly adherent. The cut surface was grey-white and showed areas of necrosis. There was no involvement of the renal pelvis. The tumour metastases were observed in various organs which included left kidney, right adrenal gland, liver, duodenum, myocardium, both lungs, fifth lumbar vertebra, para-aortic and tracheo-bronchial lymph nodes, subcutaneous tissue (upper abdomen, and left buttock), skin behind the left ear and upper jaw.

Microscopic examination of multiple sections from the right kidney showed a malignant neoplasm comprising both epithelial and mesenchymal elements. The epithelial cells were polyhedral and contained abundant eosinophilic finely granular cytoplasm. Nuclei of these cells displayed minimal anisonucleosis and hyperchromatism (Fig. 1). The

FIG. 1. Carcinomatous component in the carcinosarcoma of kidney. HE, $\times 263$.

FIG. 2. Sarcomatous component in the carcinosarcoma of kidney. HE, $\times 263$.

mitosis was infrequent. The epithelial cells were arranged in alveolar fashion or in solid sheets. Periodic acid-Schiff stain with and without prior diastase treatment disclosed moderate glycogen. Frozen sections stained with oil red O were negative for lipid. The sarcomatous areas consisted mostly of large spindle cells displaying all the features of malignancy. Abnormal mitoses and giant cell formation were frequent (Fig. 2). Some of the cells resembled strap-like cells of rhabdomyosarcoma with abundant acidophilic cytoplasm. However, PTAH* stain failed to demonstrate cross-striations. Van Gieson and reticulin stains revealed abundant collagen in the interstitium and reticulin fibres around the individual cells in sarcomatous areas. Although

* phosphotungstic acid-haematoxylin.

FIG. 3. Close association of carcinomatous and sarcomatous elements in some areas. Note the lack of transition and maintenance of separate identity of these two elements. HE, $\times 210$.

FIG. 4. Bronchial lymph node metastasis showing pure carcinomatous component from carcinosarcoma. HE, $\times 245$.

intermingling of carcinomatous and sarcomatous areas were observed, areas containing predominantly sarcomatous elements were common (Fig. 3). Areas of necrosis were observed only in the sarcomatous areas, thus signifying the faster growth of mesenchymal components. In the areas where the two components are intermingled, no transition was evident (Fig. 3). Sections from one metastatic nodule in the right lung and two lymph nodes from the hilar area exhibited purely epithelial components (Fig. 4). All the other metastatic lesions involving various organs

FIG. 5. Liver metastasis showing pure sarcomatous elements from carcinosarcoma. HE, $\times 193$.

showed exclusively mesenchymal components (Fig. 5). No area of metastasis contained mixed elements.

Discussion

Carcinosarcomas of the adult kidney are very rare tumours and constitute a small percentage of all renal sarcomas (Elliott, Pontius and McCallum, 1973). Although quite a few case reports were published, Willis (1967) felt the majority of these cases were spurious examples because of two reasons: (1) failure to recognize the versatility of renal cell carcinoma, and (2) failure to differentiate adult form of Wilm's tumour. However, there are some well documented case reports of true carcinosarcomas in the literature, describing the combination of an epithelial component with mesenchymal components such as osteosarcoma (Elliott *et al.*, 1973; Hou and Willis, 1965; Farrow, Harrison and Utz, 1968), rhabdomyosarcoma (Menzier, 1956; Fisher and Davis, 1962), fibrosarcoma (Menzier, 1956), and leiomyosarcoma (Leopold and Mogg, 1964; Kher *et al.*, 1975). Of these various reported cases, as in the present case, only a few presented with pure sarcomatous metastasis.

The authors believe the case presented here is a genuine carcinosarcoma because of the following reasons: (1) absence of embryonal renal tissue which precludes the possibility of Wilm's tumour; (2) absence of transition from epithelial to sarcomatous elements thus eliminating the possibility of spindle cell renal carcinoma; (3) importantly, by the observed metastasizing ability of the epithelial and mesenchymal elements. To the authors' knowledge, this is the first reported case in which fibrosarcomatous component of carcinosarcoma has shown independent metastases.

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Co-existent eosinophilic gastroenteritis and hypothalamic-pituitary dysfunction

M. R. HAENEY

M.B., B.Ch., M.Sc., M.R.C.P.(U.K.)

R. J. WILSON

B.Sc., M.D., M.R.C.P., F.R.C.P.(E)

Metabolic Unit, East Birmingham Hospital, Birmingham B9 5ST

Summary

A case of eosinophilic gastroenteritis in a 42-year-old man is described. The patient had diarrhoea, faecal blood loss, a protein-losing enteropathy, malabsorption of fat, xylose and vitamin B₁₂. Co-existent hypopituitarism, diabetes insipidus and hypothalamic dysfunction was demonstrated. Complete clinical recovery occurred with pituitary replacement therapy alone. The association of this endocrine abnormality with the picture of eosinophilic gastroenteritis has not previously been described.

Introduction

In 1937, Kaijser described the first three cases of eosinophilic infiltration of the stomach and small bowel, following which further reports appeared in the literature. Terminology became increasingly confusing with lesions being reported under a variety of names, until Ureles *et al.* (1961), after a review of the world literature, proposed a classification of the reported cases into diffuse and circumscribed types. The latter is the so-called eosinophilic

granuloma, a localized, submucosal, inflammatory, polypoid lesion. This variety appears to be much more common than the diffuse type, which is now generally termed eosinophilic gastroenteritis (Ureles *et al.*, 1961; Edelman and March, 1964; Klein *et al.*, 1970). Eosinophilic gastroenteritis can be readily differentiated from eosinophilic granuloma on clinical, pathological, laboratory and radiological findings (Ureles *et al.*, 1961; Edelman and March, 1964; Burhenne and Carbone, 1966).

A patient with eosinophilic gastroenteritis has recently been seen. The case appears unique in that the patient was also found to be suffering from hypopituitarism, diabetes insipidus and hypothalamic dysfunction. The features of eosinophilic gastroenteritis were completely reversed by cortisone acetate prescribed in standard dosage as pituitary replacement therapy. This raises the possibility that the pituitary-hypothalamic defect may be implicated in the pathogenesis of the gastrointestinal lesion.

Case report

A 42-year-old car assembly worker presented in April 1974 with nocturnal diarrhoea of 3 months'

Correspondence: Dr M. R. Haeney, Regional Immunology Laboratory, East Birmingham Hospital, Birmingham B9 5ST.