

CARCINOSARCOMA OF THE PROSTATE WITH UROTHELIAL AND SQUAMOUS COMPONENTS

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Carcinosarcoma of the prostate is a rare neoplasm with malignant epithelial and mesenchymal components. Most contain adenocarcinoma as the epithelial component.^{1,2} To our knowledge this is the first report of carcinosarcoma of the prostate with urothelial and squamous epithelial elements and without a glandular component.

CASE REPORT

A 51-year-old male smoker presented with gross hematuria and obstructive voiding symptoms. Digital rectal examination was notable for a palpable abnormality of the prostate. Prostate specific antigen (PSA) level was 0.4 $\mu\text{g/ml}$. Basic laboratory values, urinalysis, cytology and cystoscopic examination were within normal limits.

Ultrasound guided prostate needle biopsy demonstrated sarcomatoid carcinoma with squamous and urothelial features in the epithelial component. Contrast enhanced magnetic resonance imaging of the pelvis revealed an enlarged prostate with central necrosis consistent with a necrotic neoplasm (fig. 1). Other imaging modalities showed no evidence of metastatic disease. Radical retropubic prostatectomy was attempted but the prostatic mass was found invading the bladder. Therefore, radical cystoprostatectomy with bilateral pelvic lymphadenectomy and ileal conduit diversion were performed.

The resected prostate specimen had a grayish-white ne-

crotic tumor located centrally measuring 4.2 cm in greatest dimension. The tumor extended out of the prostate at the base, involving the soft tissue around the seminal vesicles. Histological examination of the prostate demonstrated carcinosarcoma, including areas of urothelial carcinoma and squamous differentiation (fig. 2). No glandular component (ie adenocarcinoma) was identified in the serially sectioned and totally submitted specimen. The bladder specimen was normal on gross and microscopic examination, supporting a prostatic origin of the tumor. Postoperative course was uneventful and the patient was referred for counseling regarding adjuvant treatments.

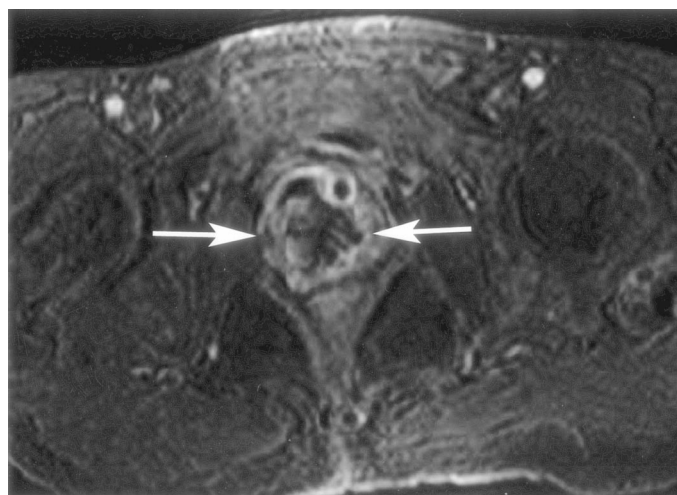
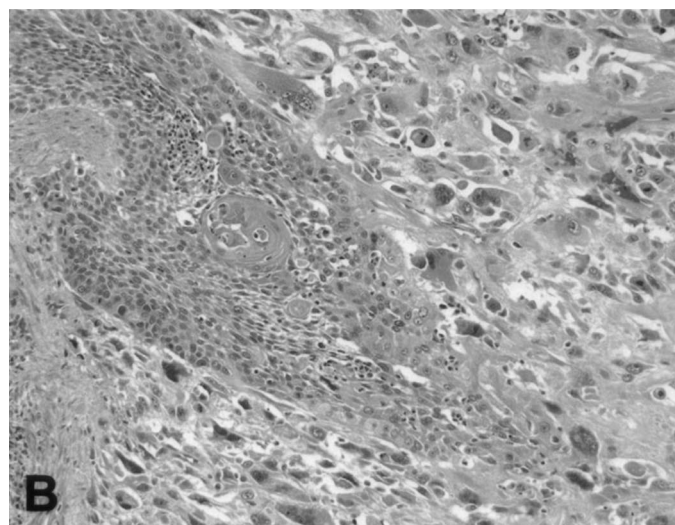
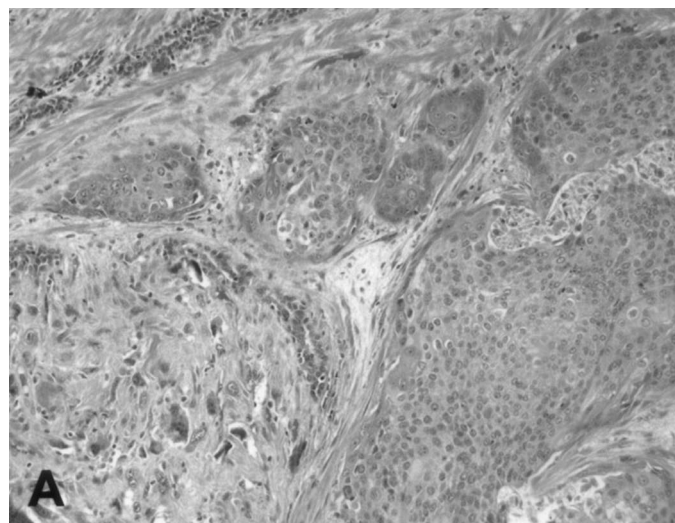


FIG. 1. Axial arterial phase gadolinium enhanced magnetic resonance imaging reveals focal enlargement in central zone of basal prostate. Note peripheral nodular enhancement with low signal intensity, suggesting necrosis (arrows). Lesion extended from apex to base (not shown) abutting almost whole organ.

FIG. 2. Microscopic view of surgically resected prostate mass demonstrates carcinosarcoma of prostate with urothelial (A) and squamous components (B). H & E, reduced from $\times 20$.

DISCUSSION

Primary sarcomatoid carcinoma (carcinosarcoma) of the prostate is a rare and aggressive tumor characterized by the coexistence of malignant high grade epithelial and mesenchymal components. Adenocarcinoma was uniformly the epithelial component in previous reports.^{1,2} The type of sarcoma may vary, including elements such as osteosarcoma, chondrosarcoma, rhabdomyosarcoma, leiomyosarcoma and angiosarcoma. Carcinomatous and sarcomatous elements may metastasize.³ The prognosis of prostate carcinosarcoma is poor, with death invariably occurring within 2 years regardless of treatment modality. PSA values are usually within normal limits, possibly due to "dedifferentiation" of tumor cells. In this case PSA values were low, also reflecting the absence of a prostatic adenocarcinoma component and the replacement of virtually the entire gland by tumor.

The histogenesis of prostate carcinosarcoma is not completely understood. Proposed mechanisms include transformation of epithelial elements into a sarcomatous component and divergent differentiation of epithelial stem cells into both

malignant components. In the current case the unique epithelial component could have arisen either from prostatic ducts with urothelial metaplasia or from the overlying prostatic urethra. The presence of a large prostatic mass with low serum PSA levels suggests a differential diagnosis of malignant tumors that do not form glands (ie urothelial, hematological, mesenchymal and small cell carcinoma). Adenocarcinomas that can present in a similar manner include prostatic carcinosarcoma, some prostatic ductal adenocarcinomas and extrinsic tumors (ie bladder or colon) invading the prostate.

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