

Case Report

Sarcomatoid Urothelial Carcinoma of the Bladder: A Case Report and Review of Literature

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ABSTRACT

Background: Urothelial carcinoma is the most common type of bladder tumour accounting for 95-98% of all bladder tumours. It has different variants, including sarcomatoid type. Sarcomatoid urothelial carcinoma (SUC) is a very rare variant of urothelial carcinoma presenting as a biphasic malignancy with epithelial and mesenchymal components. SUC accounts for 0.31% of all bladder tumours and is often aggressive with a poor prognosis. Patients are mostly treated by cystectomy followed by adjuvant chemotherapy and radiotherapy. **Case Presentation:** In this paper, we report a case of sarcomatoid carcinoma in a 40-year old male who presented with a 2-year history of intermittent painless haematuria and lower abdominal pain. Abdomino-pelvic ultrasound and cystoscopy revealed a mass over the dome of the bladder. He underwent transurethral surgical resection of the bladder mass. The patient did well post operatively and was discharged 6 days after the procedure and was asked to come back for follow up in 2 weeks. When he came, he was found to be improving and was counselled on the plan for chemotherapy and radiotherapy but he never came back to the clinic again after he left. **Conclusion:** Sarcomatoid carcinoma of the bladder is a rare variant of urothelial carcinoma characterized by a combination of malignant epithelial and mesenchymal components. Its treatment modalities include surgery, radiotherapy and/or chemotherapy.

Keywords: Sarcomatoid, urothelial, carcinoma, rare, biphasic

INTRODUCTION

Cancer of the bladder is one of the most commonly diagnosed malignancies. Globally, urinary bladder cancer is the tenth most commonly diagnosed cancer worldwide, and the 6th most commonly diagnosed cancer in men worldwide with an estimated worldwide incidence of 573,278 new cases in 2020.¹

Infiltrating urothelial carcinoma is the commonest malignant neoplasm of the bladder accounting for

95-98% of all bladder tumours and is known to have tendency for divergent differentiation. The variants include squamous, glandular, sarcomatoid, micropapillary, lymphoepithelioma-like, plasmacytoid and, nested differentiations.²

Sarcomatoid urothelial carcinoma (SUC) is a very rare and aggressive tumour. It accounts for 0.31% of all bladder tumours and presents as a biphasic tumour composed of epithelial and mesenchymal

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components.³ SUC is more common in males than females with a ratio of 2:1 and presents commonly at the seventh decade of life.⁴ The disease is mostly diagnosed at advanced-stage due to late presentation, and patients usually present with lower urinary tract symptoms and hematuria.⁵ SUC is a highly aggressive and invasive tumour with a poor prognosis compared with conventional urothelial carcinoma despite different treatment modalities.⁴

CASE REPORT:

A 40-year old male was referred to our facility from a peripheral hospital with a 2-year history of intermittent painless hematuria, body weakness, and lower abdominal pain. On physical examination, the patient was found to be moderately pale. Urea and electrolytes, full blood count, and chest X-ray were essentially

unremarkable except for the anaemia. Urine microscopy revealed pyuria. Abdomino-pelvic ultrasound and cystoscopy revealed a mass over the dome of the bladder. CT-scan and MRI were not done. The patient was admitted, transfused with blood, and subsequently underwent transurethral surgical resection of the bladder mass. The patient made an uneventful recovery post operatively. He was discharged 6 days after the procedure and was given two weeks appointment to come back for follow-up. When he came back, he was counselled on the plan for chemotherapy and radiotherapy but never come back again after he left.

Macroscopically the tumour was large and composed of fragments of greyish- tan tissue with solid surfaces and aggregates 12 cm in length (Figure 1). Microscopically, the lesion demonstrated features of sarcomatoid carcinoma with chondroid differentiation (Figures 2,3 and 4).

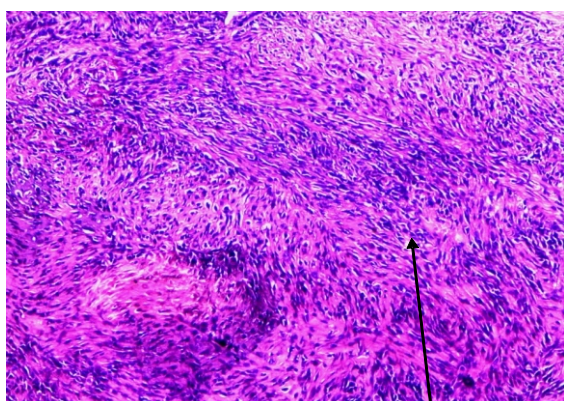


Figure 1: (H&Ex100)
Malignant Mesenchymal cells

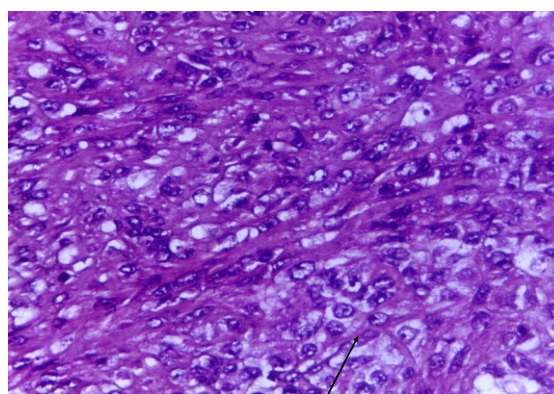
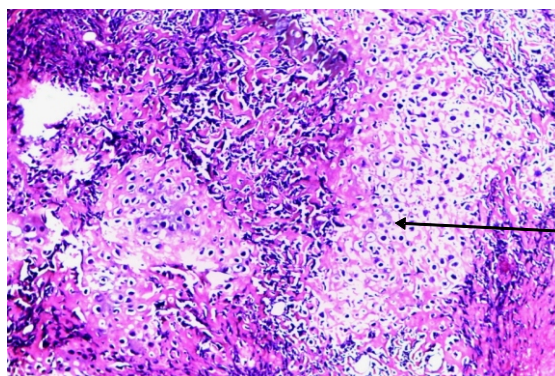


Figure 2: (H&Ex200)
Malignant epithelial cells

Figures 1 and 2: Sarcomatoid urothelial carcinoma showing malignant epithelial cells and sarcomatoid spindle cells



Chondroid differentiation

Figure 3: Sarcomatoid urothelial carcinoma demonstrating chondroid differentiation (H&Ex100)

DISCUSSION

Urothelial carcinoma is the most common type of bladder malignancy. It has several histological variants like squamous differentiation, glandular, micropapillary type, sarcomatoid differentiation, inverted and nested pattern. Sarcomatoid carcinoma is rare accounting for 0.31% of all bladder cancer cases.⁶ It is seen most commonly in patients over 60 years of age and is more common in males with a male to female ratio of 3:1.⁵ Our case was a 40-year old male which is slightly lower than the age reported but is in agreement with male predominance. The exact aetiology is unknown but is said to be associated with radiation, smoking, recurrent cystitis and exposure to cyclophosphamide.⁷ Most of the patients with SUC of urinary bladder present with painless hematuria commonly as in our case. Other complaints the patient can present with are recurrent urinary tract infections, suprapubic pain, and dysuria.

SUC is an aggressive type of locally advanced malignancy with a high recurrence rate. The tumour is most commonly located in the lateral wall of the bladder and macroscopically mostly with ulcerated, exophytic, bleeding, and necrotic areas.^{8,9} Microscopically, it is composed of sarcomatoid and carcinomatous components. The sarcomatoid component comprises a mixture of spindle cells, round cells, and pleomorphic cells. The carcinomatous component shows papillary or non-papillary features.¹⁰ The sections of the tissue in our case also show a malignant epithelial component within a sarcomatoid background.

Currently, there is no universally accepted approach to treat SUC and so there are many treatment modalities which include transurethral tumour resection, partial cystectomy, radical cystectomy followed by radiotherapy and/or chemotherapy protocols. With all these treatment options the success rate is low with less than 2 years of patient's survival time.¹¹

Transurethral resection of the bladder tumour

followed by chemotherapy may prolong the long-term survival of the early-stage SUC patients, but is not appropriate mostly as the tumour is aggressive and patients usually present at an advanced stage. In view of this, many urology centres carry out radical cystectomy and then chemotherapy and/or radiotherapy to prevent recurrences, especially in high-risk patients like those with high-grade tumour, extravesical spread, lymph node, and resection margin involvements.¹¹

Sarcomatoid urothelial carcinoma has a very poor prognosis compared with other variants, due to its aggressive nature.¹² The prognosis is even worse than high-grade urothelial carcinoma with a 17% five-year survival rate as compared to 47% in urothelial carcinoma.⁵

CONCLUSION

Sarcomatoid carcinoma is a very rare variant of urothelial carcinoma which microscopically shows epithelial and mesenchymal components. It is an aggressive tumour with a poor prognosis which is treated by cystectomy followed by chemotherapy and radiotherapy.

Consent for publication

The patient gave his written informed consent to use his clinical information for the study of this case report and any accompanying images. He understands that his names and initials will not be published and due efforts will be made to conceal his identity.

Limitation of the study

The main limitation of the study is the inability of the patient to be coming for regular follow-up, which is very important for better management of the case. Also, treatment with chemotherapy and radiotherapy which can improve the outcome of this patient can better be done with regular follow-up. In view of this patients should be counselled on the importance and benefits of follow-up.

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