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Sarcomatoid Urothelial Carcinoma: Case Report

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Abstract **Case Report**

Sarcomatoid carcinomas of the bladder represent à tiny fraction of bladder tumors and are characterized by à high potential for malignancy. Very aggressive and mainly affecting men, these tumors have both à urothelial and sarcomatoid component. We report à case of a 66-year-old male patient with à history of Arterial Hypertension, and follow-up for bladder tumor, whose transurethral resection of the bladder (TURB) was performed. He presents with an abdominal mass, total clotting hematuria. Diagnosed with a high-grade infiltrating Sarcomatoid Urothelial Carcinoma, after the 2nd recovery analysis of transurethral resection of the bladder (TURB). He underwent a cystoprostatectomy and the histological diagnosis from the resection was confirmed.

Keywords: Bladder, Carcinoma, Sarcomatoid, malignancy, aggressive.

INTRODUCTION

Bladder sarcomatoid carcinomas are a very rare malignant type representing less than 0.5% of bladder tumors, characterized by the coexistence of an epithelial urothelial contingent and a contingent of spindle cells with a predominant sarcomatous connective appearance. It has been considered an aggressive variant of bladder carcinoma [1]. Our case, followed for tumor of the bladder, the transurethral resection was carried out whose histological diagnosis evoked was high grade sarcomatoid urothelial carcinoma which presents in majority the component of spindle cells. The epithelial component is poorly represented, and the glandular, epidermoid, and chodrosarcomatous components are absent. This diagnosis was confirmed after the cystoprostatectomy. Therapeutic management remains unclear due to the rarity of cases reported in the literature. Although different treatment modalities have been tried in the literature, radical cystectomy followed by adjuvant chemotherapy and radiotherapy should be preferred in all patients, given the high incidence of local and distant metastases [2].

OBSERVATION

We report the case of a 66-year-old patient with a personal history of well-balanced Arterial Hypertension under Hydrochlorothiazide. The history of the disease goes back to 1 month by the occurrence of total clotping hematuria with pollakiuria and dysuria, which motivated the patient to consult the emergency room, on admission the patient was stable. On the biological assessment, an Hb= 7.3g/dL and a creatinine clearance= 29.53mL/min. Renal bladder ultrasound showed bilateral pyelocalicial ectasia at 12mm with a bladder wall of irregular thickness and heterogeneous content. In addition, the patient received 02CG transfusion as well as parenteral rehydration, bringing his HB to 9.7g/dL and his creatinine clearance to 47mL/min.

Thus an extension assessment was carried out (thoraco-abdomino-pelvic CT) which showed an aspect in favor of a bladder tumor infiltrating the ureteral walls with right common iliac ADP classified T4aN3M0 (Figure 1). The patient underwent incomplete transurethral resection of the bladder tumor which was deemed uncontrollable endoscopically, since it occupied the entire bladder surface (Figure 1). On the pathological report, it was a high-grade pT1 infiltrating sarcomatoid carcinoma with absence of CIS and absence of vascular emboli.

Faced with the threatening clotsing total hematuria that the patient still presented, degrading his Hb to 3.2g/dL and the aggressive nature of the Sarcomatoid Carcinoma, a cystoprostatectomy with lymph node dissection was performed with the anatomopathological report concluding a Sarcomatoid

Carcinoma classified pT3a N0 Mx, with the presence of vascular emboli and perineural sheathing, and healthy resection limits. The prostate is free from tumor proliferation (Figures 2, 3, and 4).

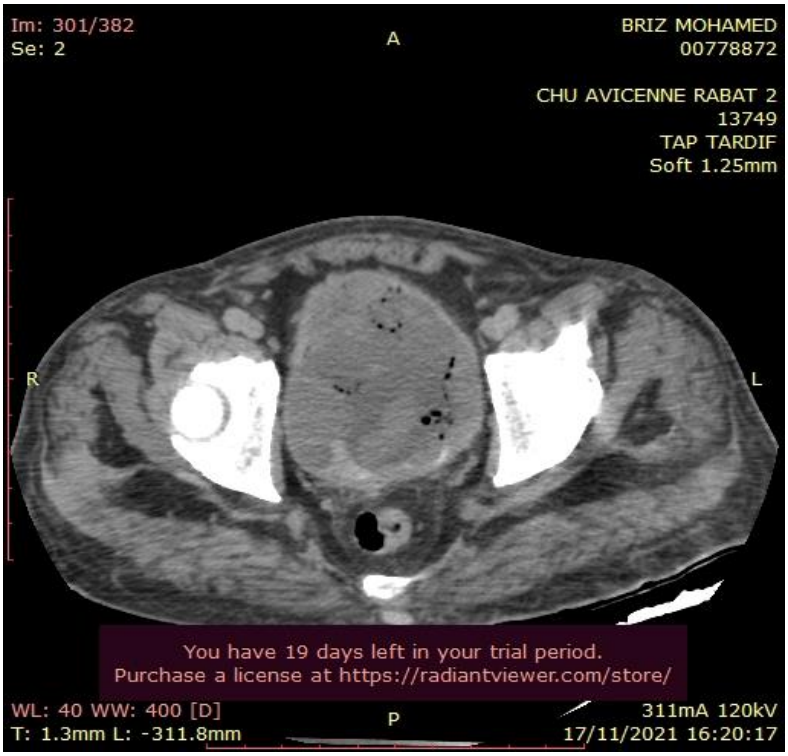

Figure 1: CT showing a mass occupying the entire bladder cavity

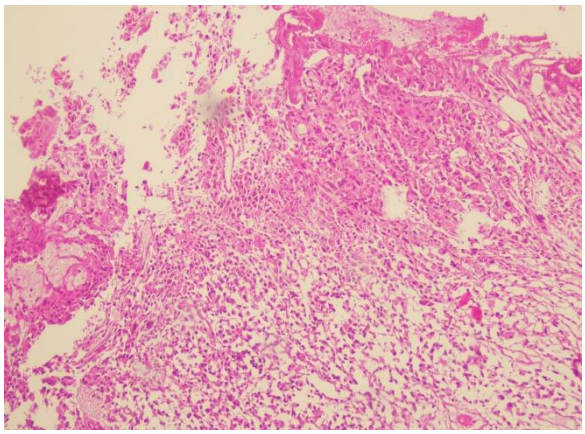

Figure 2: Show sarcomatoid histological aspect of the tumor and epithelial component

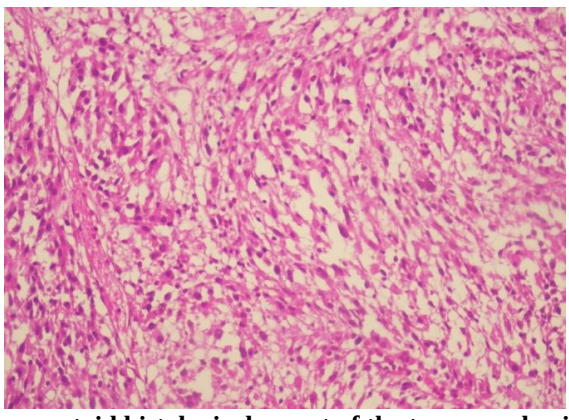

Figure 3: Show sarcomatoid histological aspect of the tumor and epithelial component

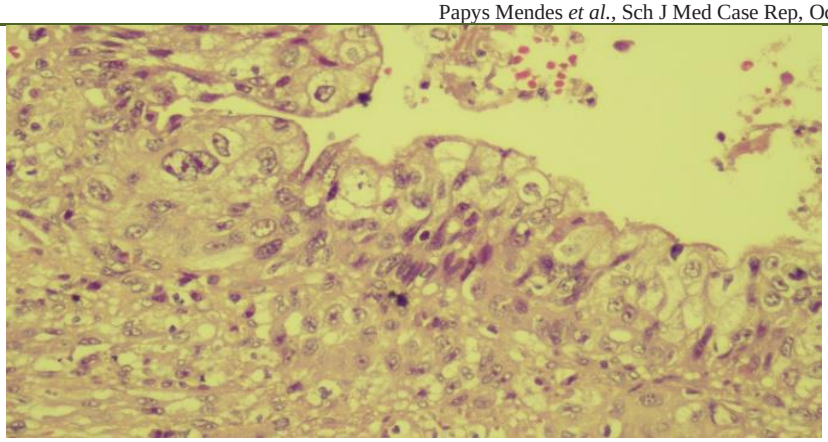

Figure 4: Show sarcomatoid histological aspect of the tumor and epithelial component

DISCUSSION

Sarcomatoid carcinomas of the bladder are very rare malignant tumors, characterized by the existence of both double contingents: A contingent of urothelial epithelial cells and a contingent of fusiform cells with a predominantly sarcomatous connective aspect. The carcinomatous contingent is often high grade and areas of necrosis are frequently present in the sarcomatoid contingent [3]. In our case, the tumor presents necrosis, and it is made of double contingents.

"Invasive urothelial carcinoma, sarcomatoid variant" was the preferred term by the 2004 World Health Organization classification for tumors of the urinary tract [4]. It is a very aggressive type, often diagnosed at an advanced stage. It mainly affects men with an average age of 66.4 years [5]. Our patient is 66 years old, with a bladder tumor that was found to be uncontrollable endoscopically, it occupied the entire bladder surface and microscopic analysis reveals that this tumor infiltrates the entire bladder wall down to the perivesical fat, presence of necrosis. This shows the aggressive nature of these tumors.

Regarding the overlapping histology and immunophenotype, as well as the aggressive biological behavior of these tumors, a hypothesis has been presented by researchers that the carcinomatous and sarcomatous elements have a common cellular origin [5]. This hypothesis has been validated by a series of studies. Sung *et al*., [6] in 2007 and subsequently Völker *et al*., [7] in 2008. Epithelial and mesenchymal components were also shown to share similar chromosome gains and losses. These results are consistent with the hypothesis that sarcomatoid carcinoma is developed from a common pluripotent progenitor cell, which has potential for epithelial and mesenchymal differentiation [3].

Several pathogenic factors have been reported in the literature, for example radiotherapy, smoking and certain chemical carcinogens such as cyclophosphamide [8]. Clinically, the symptomatology is dominated by hematuria associated or not with irritative signs [1]. What presented our patients. The positive diagnosis is based on the anatomopathological study of the resection chips. Histologically, the tumor may present a mixture of carcinomatous and sarcomatoid components in variable proportions, but the sarcomatoid component always occupies more than 50% of the tumor surface [3]. The epithelial component could be transitory cell carcinoma, squamous cell carcinoma, carcinoma in situ, small cell carcinoma, and adenocarcinoma, while the sarcomatous component could consist of leiomyosarcoma, chondrosarcoma, rhabdomyosarcoma, and rarely liposarcoma [9].

Immunohistochemically, keratin expression was observed focally in the sarcoma component as well as in the carcinoma component. Reactivity for vimentin, desmin, muscle-specific actin and S-100 protein was observed in poorly differentiated areas in addition to the expected positivity of each histological sarcoma subtype [10].

Therapeutic management remains unclear due to the rarity of cases reported in the literature. Although different treatment modalities have been tried in the literature, radical cystectomy followed by adjuvant chemotherapy and radiotherapy should be preferred in all patients, given the high incidence of local and distant metastases [2]. Our patient underwent radical cystoprostatectomy.

Conflicts of interest: There is no conflict of interest.

CONCLUSION

Sarcomatoid urothelial carcinomas are rare, very aggressive tumors with a poor prognosis requiring urgent and precise management to reduce the high incidence of local and distant metastases.

Radical cystectomy followed by adjuvant chemotherapy and radiotherapy should be preferred in all patients, given the high incidence of local and distant metastases.

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