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Urology

RECURRENT NEUROENDOCRINE TUMOUR OF THE BLADDER : A CASE REPORT

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ABSTRACT Bladder neuroendocrine tumours are rare, aggressive and often with hematuria. Accurate diagnosis requires histopathology and immunohistochemistry. Radical surgery combined with systemic therapy provides the best chance for disease control. This study aims to describe the importance of early detection and multimodal treatment for better control.

KEYWORDS : Neuroendocrine Carcinoma, Bladder Tumour

INTRODUCTION

Neuroendocrine tumours of the bladder are rare and constitute a small percentage of bladder tumours. These tumours are aggressive, and this case presents a 45-year-old female with a history of bladder tumour and neuroendocrine carcinoma, which has been managed by surgical intervention with anterior pelvic exenteration and ileal conduit diversion.

Case Presentation

A 45-year-old female patient was admitted to the hospital with complaints of symptoms such as Hematuria and Weight loss. The patient's history revealed that she was diagnosed with a bladder tumour and underwent Transurethral Resection of Bladder Tumour (TURBT) three times, once each in 2018, 2019, and 2022. She also had hypertension and hypothyroidism. She gave a history of one-month hematuria on and off. There was no history of fever, Vomiting, Nausea, or burning micturition.

Subsequently, she has developed recurring symptoms indicative of tumour recurrence. Evaluation of the symptoms verified recurrence of neuroendocrine carcinoma of the bladder through a series of tests, including cystoscopy and histopathology. Figure 1 shows the invasion of a neuroendocrine tumour.

Management

Hence, considering the occurrence of this tumour and its aggressive nature, a surgical plan has been formulated. On August 11, 2025, she underwent anterior pelvic exenteration with ileal conduit diversion. Her electrolytes and blood pressure are being monitored.

DISCUSSION

The incidence of neuroendocrine tumours in the bladder is very rare, ranging from 0.5-1% of all cases of bladder cancer, with small cell neuroendocrine carcinoma being the most common type of neuroendocrine tumour of the bladder (1). Such cancers tend to grow fast, are high-grade, and tend to metastasize early (2). In our case, which was initially managed with transurethral resection due to the recurrence and aggressive nature of the tumour, surgical intervention was planned.

Pathogenesis and Clinical Presentation

Their mode of origin is unknown; however, these tumours are thought to arise from pluripotent stem cells that possess divergent differentiation capabilities into neuroendocrine cell lines, among others (3). Presentation of these tumors is characterised by painless haematuria, an aspect that is shared by all bladder pathologies. In some cases, systemic symptoms are also seen, especially in small cell-type tumors (4).

Diagnosis and Staging

The diagnosis is made by cystoscopy, imaging studies such as CT scans or MRIs, and histopathological evidence, along with immunohistochemistry done by the Reuters stain for neuroendocrine markers such as chromogranin, synaptophysin, and CD56 (5). The accurate staging must be done, keeping in mind that metastasis is likely (6). In this case, the section of the urinary bladder has tumor cells that are arranged in nests, islands, or sheets with a fibrovascular stroma. The cells are round to polygonal with abundant eosinophilic or clear cytoplasm, and nuclear reactions consist of a salt and pepper appearance. There is tumour necrosis and haemorrhage in the adjacent areas. The presence of a mitotic figure (3-4 HPF with a few atypical) is observed.

Synoptic report shows tumour site on the posterior wall of the bladder, histological type malignant paraganglioma, histological grade-GAPP score -9 (poorly differentiated as high risk), tumour size-3.2x2.5x1.8cm, regional lymph nodes involved on the pTNM p T3b (m) p N tumour. Blood pressure and electrolytes are regulated throughout the treatment as depicted in Figure 2.

Managing Strategies. Given the rarity of this entity, most of the treatment strategies are largely extrapolated from small-cell lung carcinoma and other neuroendocrine tumours (7) . Multimodal management incorporating radical cystectomy or anterior pelvic exenteration in combination with systemic chemotherapy is considered to provide the most favourable disease control (8). In the present case, recurrence with localised disease necessitated surgical resection. For systemic disease, platinum-based chemotherapy involving cisplatin and etoposide is commonly used as a standard (9). Radiotherapy may be considered for local control or palliation (10). In our patient, recurrent disease after multiple TURBTs called for aggressive surgical intervention. Anterior pelvic exenteration was performed to achieve macroscopically complete resection, which is mostly required given the nature of the tumour that is usually aggressive (11).

Prognosis

As far as the prognosis for Neuroendocrine bladder tumours is concerned, it is said to be poor for these patients, whose survival rate is said to remain within a range of 8 to 20 months only, depending on the response to therapy (8).

Conclusion: It, therefore, highlights the significance of keeping neuroendocrine carcinoma in the differential diagnosis of recurrent bladder tumours. Complete investigations, along with histo-pathological examination, are necessary for proper diagnosis and treatment of these rare cancers.

Consent: Written informed consent was obtained from the patient for the publication of this case report/images. The patient understands the confidentiality of her reports.

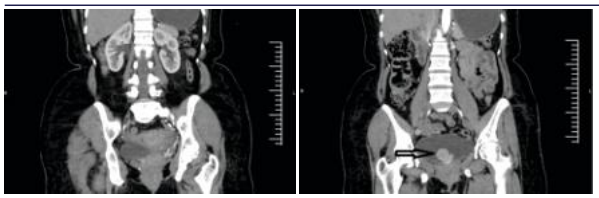

Figure 1- CT Report Illustrated the Significant Extent of Local Invasion

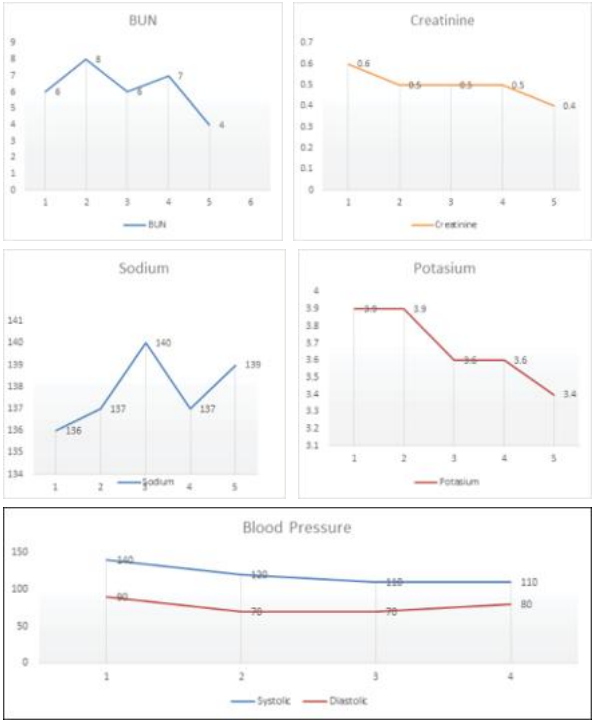

Figure-2 Blood Pressure and Electrolyte Parameters After Initiation of Treatment. One is the 1st Postoperative Day of Treatment

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REFERENCES

1. Lopez-Beltran, A., et al. (2016). Neuroendocrine tumors of the urinary bladder. Histopathology, 68(6), 829–838.
2. Zhang, Y., et al. (2018). Neuroendocrine carcinoma of the bladder: A review. World Journal of Clinical Oncology, 9(2), 55–62.
3. Urquidi, V., et al. (2017). Clinical features and outcomes of neuroendocrine bladder tumors. Urologic Oncology, 35(4), 174–180.
4. Amin, M. B., et al. (2018). The 2018 WHO classification of tumors of the urinary system and male genital organs. European Urology, 74(1), 1–4.
5. Garcia, A. M., et al. (2014). Small cell carcinoma of the bladder: An analysis of 64 cases. Urology, 84(6), 1264–1269.
6. Choudhury, S., et al. (2015). Management of neuroendocrine carcinoma of the bladder. Current Urology Reports, 16(9), 52.
7. Saito, K., et al. (2017). Chemotherapy for neuroendocrine carcinoma of the bladder: A review. Japanese Journal of Clinical Oncology, 47(2), 128–134.
8. Tamas, M., et al. (2015). Prognostic factors in neuroendocrine carcinoma of the bladder. European Urology Focus, 1(4), 351–357.
9. Batsakis, J. G. (2017). Neuroendocrine tumors of the bladder: A review. Archives of Pathology & Laboratory Medicine, 141(8), 1058–1062.
10. Kamat, A. M., et al. (2016). Treatment approaches for neuroendocrine tumors of the bladder. Urologic Oncology, 34(9), 385–393.
11. Mertens, K., et al. (2018). Surgical management of neuroendocrine bladder tumors. European Urology, 74(2), 262–268.