Case Report

Primary malignancy of seminal vesicle: A rare entity

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ABSTRACT

We report a rare case of seminal vesicle malignancy (primitive neuro ectodermal tumor) in a 40-year-old male patient. He was treated with enbloc resection of the tumor and ureteric reimplantation. In view of the rarity of this entity, management of these tumors should be individualized.

Key words: Seminal vesicle malignancy, primitive neuro ectodermal tumor, primary tumors of genitourinary tract

INTRODUCTION

Primary malignant tumors in seminal vesicle are rarely encountered in clinical practice. Secondary spread is quite common either due to disseminated disease or by contiguous spread from adjacent organ, most commonly from prostate. [1] There is paucity of data regarding management protocols and most of the time the treatment is individualized. We report a case of seminal vesicle malignancy managed by us.

CASE REPORT

A 40-year-old male patient reported to us with a history of hematospermia and pain during ejaculation of four months duration. He gave a history of unsuccessful treatment for infertility in the past having married for 15 years. Physical examination revealed a mass in the region of right seminal vesicle about 3 × 4 cm in size. Further imaging studies with MRI [Figures 1-2] and CT scan showed a right seminal vesicle mass with right hydronephrosis. Cystoscopy showed a bulge in the region of right vesico ureteric junction without any mucosal lesion. Exploratory laparotomy finding was a right seminal vesicle mass 3 × 4 cm with right hydronephrosis [Figure 3]. The opposite seminal vesicle and prostate were normal. The tumor was focally adherent to the bladder wall and encasing the right distal ureter.

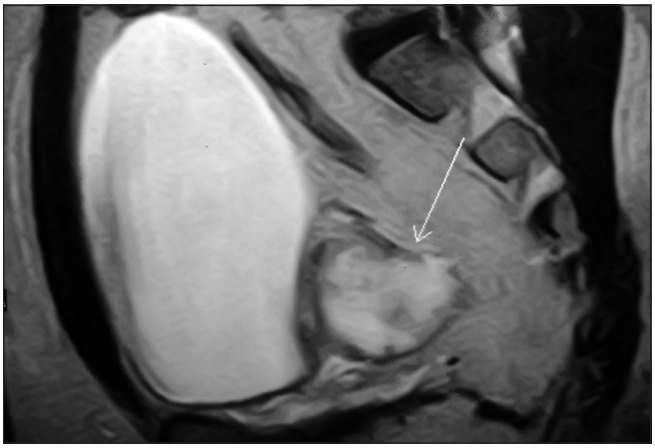

Figure 1: MRI of the patient showing the rt seminal vesicle sandwiched between bladder and rectum

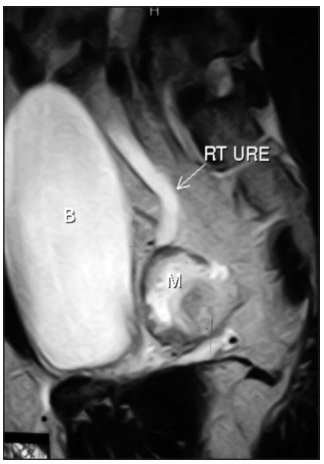

Figure 2: MRI showing the tumor's relationship to the ureter

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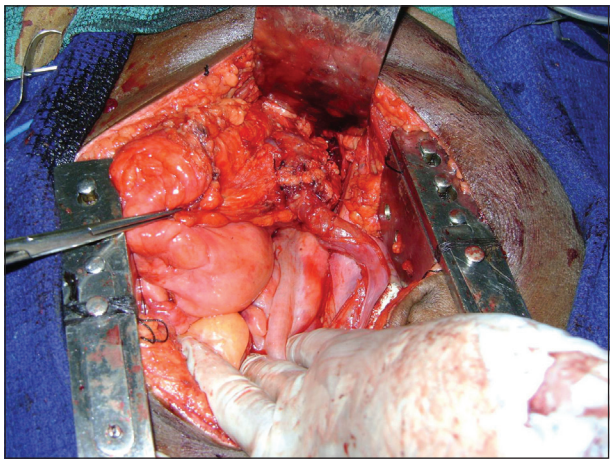

Figure 3: Intraoperative picture showing the tumor

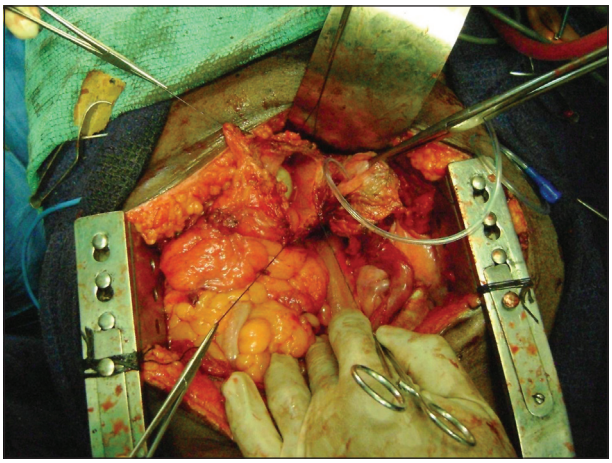

Figure 4: Enbloc removal of the rt seminal vesicle along with partial cystectomy

There were a few enlarged right iliac nodes. Frozen section analysis of a biopsy of the mass confirmed malignancy but the pathologist could not characterize the lesion further. We proceeded to resect the right seminal vesicle enbloc along with distal 3 cms of right ureter and part of the bladder with veisico ureteric junction [Figure 4]. Right ureter was reimplanted into the dome of the bladder. His postoperative recovery was uneventful and has been disease-free for the past four months

Histopathological examination of the specimen showed the right seminal vesicle to be completely replaced by the tumor and focally involving the bladder wall but mucosa was free. Although the right ureter was encased, it was not infiltrated by the tumor and all nodes were free of tumor. Histology was small round cells and further immunohistochemical analysis revealed it to be a primitive neuro ectodermal tumor (PNET). Cytokeratin, Vimentin, CD 99, S 100 were positive and LCA, Desmin, HMB45, Synaptophysin were negative.IHC study for PSA and PSAP were also negative. He was offered further adjuvant chemotherapy.

DISSCUSION

Seminal vesicle is most commonly involved by contiguous spread from adjacent organs and the most common being the prostate. It is also involved by disseminated malignancy. But primary malignant tumors of seminal vesicle are extremely rare and only 100 such cases have been reported in the literature. [2] Only two cases of PNET of seminal vesicle have been reported in the literature.[3,4] It is important to differentiate between primary and secondary spread as the former is a localized disease with possibility of cure while the later is usually an advanced disease with dismal prognosis.

Strict diagnostic criteria are required to classify the tumor as primary seminal vesicle malignancy as secondary involvement is more common. Most common organs from where malignancies spread to seminal vesicle are prostate, bladder and rectum. About 12% of prostate malignancy involves seminal vesicle. Bladder and rectal malignancies involve seminal vesicle only when the primary is locally advanced.

Seminal vesicle malignancies are classified as adenocarcinoma, mesenchymal tumors and mixed epithelial tumors. Adenocarcinoma is the most common primary malignant tumor of the seminal vesicle with the tumour confined to the seminal vesicle without prostatic involvement. Immunohistochemical studies should be negative for both PSA and prostate specific acid phosphatise.[5] Mixed epithelial tumors[6] should have no normal seminal vesicle inside the tumor, without invasion of the prostate and immunohistochemical studies should be negative for both PSA and prostate specific acid phosphatase.

In our patient, the entire seminal vesicle was replaced by the tumor and prostate was uninvolved. Although tumor was adherent to the bladder at one place both bladder mucosa and mucosa of ureter were free of tumor. Management of this entity should be individualized as there is no well established protocol. Lower urinary tract symptoms especially hematospermia point to possible seminal vesicle pathology. It is evaluated further by imaging studies either CT or MRI. Seminal vesicle pathology is imaged as a retro vesical mass in the anatomical region of seminal vesicle. This is usually followed by a transrectal ultrasound (TRUS) which establishes the diagnosis. If TRUS is inconclusive or nondiagnostic and the seminal vesicle malignancy is operable on imaging one may proceed with exploratory laparotomy. Operable primary seminal vesicle adenocarcinomas are treated with radical surgery – cystoprostosemino-vesiculolectomy with bilateral pelvic lymphadenectomy. Long term survival data are not available. No definite recommendations are available for adjuvant therapy, which must be individualized.

PNET belong to Ewing family of tumors, which are characterized by small round blue cells and associated chromosomal abnormality of balanced tranlocation in chromosome 22. Although they occur in any age group they are more common in pediatric age and in young adults. Multimodality treatment which includes surgery, radiotherapy and chemotherapy are used in the management but treatment protocols are yet to be standardized. Generally, for localized resectable disease surgery is preferred and for advanced or unresectable disease radiation is used to achieve local control. Chemotherapy is added either as an adjuvant or delivered as neoadjuvant before surgery. The most active chemotherapeutic agents are vincristine, actinomycin D, cyclophosphamide and doxorubicin. Ifosamide and etoposide may be added. The optimal combination of chemotherapeutic drugs and sequencing of multimodality treatment are still debated and should be individualized.

CONCLUSION

Primary seminal vesicle malignancy is a rare entity and should be diagnosed only after applying strict diagnostic criteria. There is paucity of data in evaluating and managing these tumors. Management of these tumors should be individualized. Surgery is the best option for localized operable lesions although long term data is not available.

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