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Case Report

Seminoma arising in the background of persistent Reteroperitoneal Woolfian duct remnants!

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Abstract:

A 23-year-old male presented with history of mass lower abdomen. He had occasional pain and abdominal discomfort. Fine Needle Aspiration Cytology findings revealed atypical cells consistent with germ cell tumor.Excisional biopsy specimen showed mass containing spermatocytic seminoma, seminal vesicle, spermatic cord and prostatic elements.

Key words: Seminoma, spermatocytic seminoma, undescended testis, reteroperitonium, Woolfian duct remnants, mesonphric duct, seminal vesicle, spermatic cord, prostate, germ cell tumor, Fine Needle Aspiration Cytology (FNAC), dysgerminoma

Introduction

Spermatocytic seminoma (SS), a rare testicular neoplasm, usually presents in older men (>50 years of age) and occurs only sporadically in younger men (<30 years of age).[1-4] To the best of our knowledge SS has not been reported in cases of cryptorchidism.[5] Our case is however unusual in this regard. SS is a solid tumor found solely in the testis with long duration of symptoms, presentation at an early stage, absence of metastasis, and thus bears an excellent prognosis.[6] Moreover, SS arises more commonly in the right testis, and has a higher frequency of bilateral occurrence than classical seminoma.[7] We report a case of unilateral SS of left undescended testis. Interestingly components of Wolffian (mesonephric) duct i.e. epididymis, vas deference and seminal vesicles; and urogenital sinus i.e. prostate were also present.

Case Report

A 23-year-old male medical technician presented to the Outpatient Department of Abbas Institute of Medical Sciences Muzaffarabad, Azad Kashmir, Pakistan with history of abdominal discomfort and pain on & off for last 15 years. He also noted a lower abdominal swelling. The physical examination confirmed a well circumscribed nontender mass that on ultrasound examination was 11x10cm of size with heterogeneous texture. Patient had left undescended testis & hypospadias for which he was operated 15-years back resulting in correction of hypospadias. He had feminine looks and voice with little hair on his face. On Physical Examination patient was anxious but vitally stable his radial pulse was 76/min and regular, Blood Pressure 120/80 mmHg, Temperature 98.6^{o}F. Heart sounds were normal, pulmonary examination revealed bilateral vesicular

breathing, CNS and musculoskeletal was not significant. Abdominal Examination revealed scaphoid abdomen with a mass in the lower abdomen palpable on both superficial and deep palpation. Mass was well circumscribed and non-tender even on deep palpation. Patient had male external genetalia. There was no visceromegaly, skin changes, shifting dullness and palpable lymph nodes. Bowel sounds were normal. FNAC was performed with 23 Gauge 10cc BD Syringe. Two passes were made with adequate aspirate. The slides were stained with Haematoxylin and Eosin as well as with Leishman stain and submitted for microscopic examination. The smears showed a few atypical cells suggestive of germ line origin. Excisional biopsy with through histopathological examination was strongly advised. The patient underwent Exploratory Laparatomy. The mass with attached tubes was identified. It was removed & specimen sent for histopathological examination.

Gross Description

Received in formalin was a 12x11x6.5cm soft and cystic tan white mass with attached 5x4x1cm and 3x2.8x1.3cm dilated tube like structures.(Figure.1) The cut sections show focal fragile to firm consistency and homogenously white surfaces studded with multiple round to oval masses; the largest measuring 3cm in diameter. Straw colored fluid extravasated from a cyst measuring 2x2x1.5cm. (Figure.2)

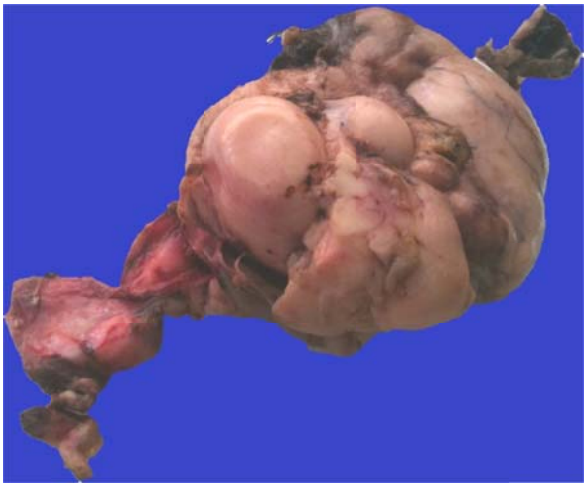

Figure 1: Mass with Attached Tubes

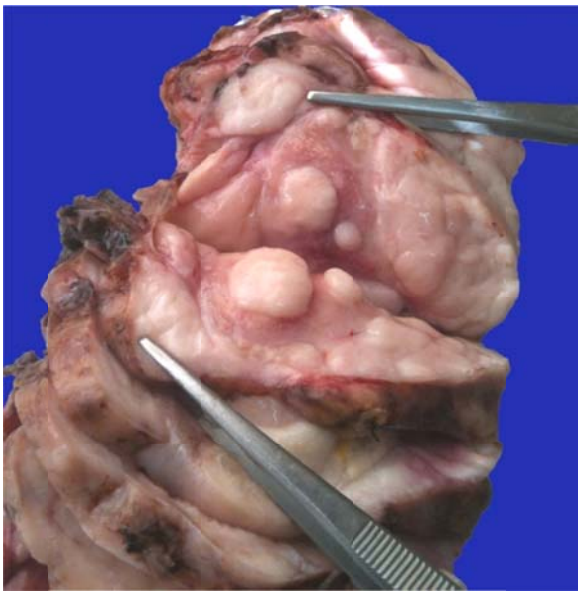

Figure 2: Mass containing multiple Nodules

Microscopic Examination

Microscopic examination of sections from mass revealed mixture of different sized tumor cells arranged in sheets and cords having nuclear pleomorphism, hyperchromasia, chromatin irregularity with prominent nucleoli, nuclear membrane breaks and high N/C ratio separated by fibrous trabeculae and spermatocytic like nuclei infiltrationwith similarities to spermatogonia and spermatocytes. (Figure3-5)Rare mitosis was also noted.

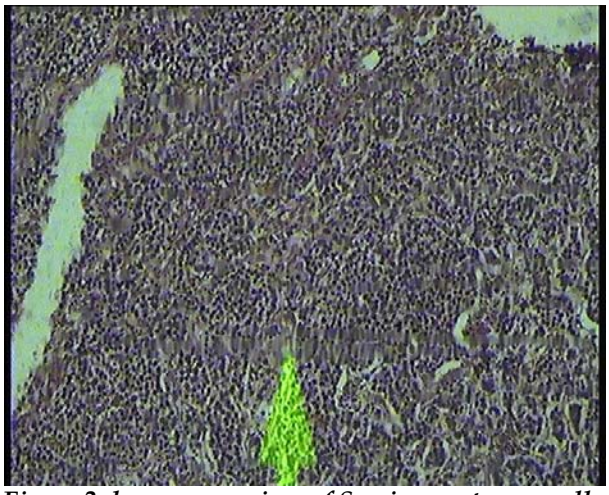

Figure 3: low power view of Seminoma tumor cells infiltrate (H&E X 40)

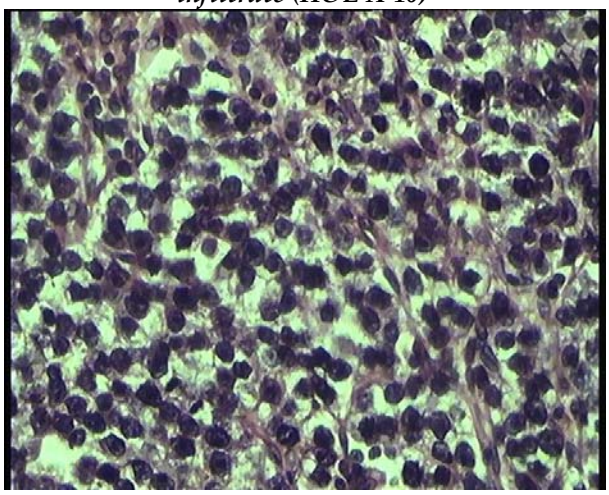

Figure 4: High power view of Seminoma cells with moderate atypia (H&E X 400)

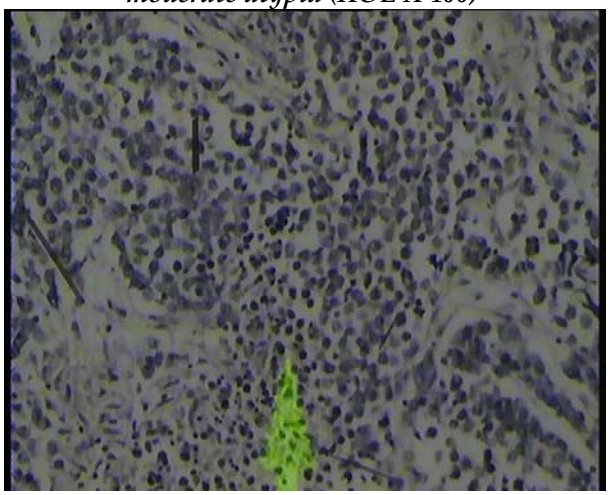

Figure 5: Focal prominent spermatocytic component(H&E X 400)

Sections also revealed vas deferens, seminal vesicle containing loose stroma, numerous dilated channels and prostatic elements. (Fig. 6&7)

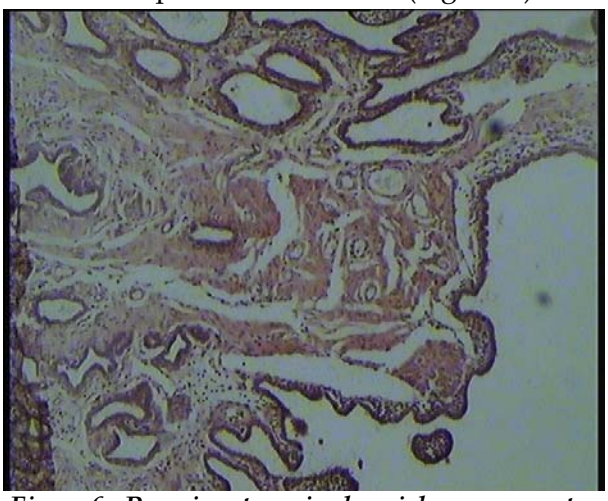

Figure 6: Prominent seminal vesicle components. (H&E x 40)

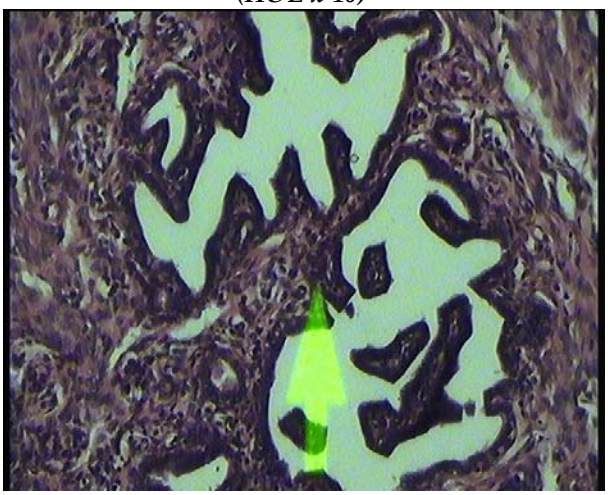

Figure. 7 prostatic elements

Discussion

SS is a distinctive, uncommon testicular germ cell neoplasm, first described by Masson in 1946.[8] Many case reports have mentioned unilateral SS associated with rhabdomyosarcomatous or Sarcomatous differentiation and anaplastic variant of seminomas.[9-14] Our case is unusual and interesting as a 23-year-old normal appearing male with feminine looks and voice presents with lower abdominal mass. He had penile hypospadias which was surgically corrected when he was 8 year of

age. He had adequate sized right testis according to his age in the scrotum. The tumor originated in left undescended testis. Incidence variesbetween 1.1 and 12% of all seminomas. 10% are bilateral. For SS there is no known risk factor like cryptorchidism, subfertility, or gonadal dysgenesis.[15] 1% of alltesticular neoplasms are SS. Origin is from postnatal germ cell. The detection of proteins SCP1 and XPA, which are normally expressed in the primary andpachytene spermatocyte stages, provide a clue that theorigin of SS is in a more differentiated cell than in classical seminoma.[16] The gain of chromosome 9, Chromosome X and DMRT1 gene presence appears to be a consistent finding in all cases of SS. Although rare but diagnosis should be considered in younger age group as in our case. Saran and colleagues applied FNAC to diagnose a case of SS and confirmed it by histology.[17] Simple diagnostic procedure like FNAC can be useful if performed preoperatively but in our case preoperative diagnosis was also a challenge as the aspirational fluids were so scarce that cytological testing was obscure withonly a few malignant cells found. Histologically three populations of cells and a preponderance of intermediate-sized cells were noted in a clean background, small cells with a dense hyperchromatic lymphocyte-like nuclei were also present. C-Kit positivity, P53 over expression, Ki-67 index can be useful in diagnosing SS.[18]Patient refused to be photographed even for abdominal mass. Histopathology revealed diagnosis of SS and elements of male genital system (spermatic cord, seminal vesicle and prostate). Treatment is surgical excision. Chemotherapy and radiotherapy can be helpful. Rare metastasis is also noticed in SS.

Conclusion

SS is a rare testicular tumor, with bilateral sequential SS presentation being even rarer. It differs from classicals eminoma especially by its behavior, characterized by an almost complete inability to metastasize with only very few examples described with metastatic behavior. FNAC is a procedure used for precluding malignant tumors. However, histopathology is essential to confirm the diagnosis. In spite of scarce evidence of bilateral SS metastasis, long-term periodic surveillance remains necessary.

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