

Spermatocytic Seminoma: A Rare Testicular Tumor

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Abstract: Spermatocytic Seminoma is a rare testicular tumor which has distinct clinical presentation, histological and immunochemical features than classical seminoma and also has good prognosis. It represents 1-4% of all seminomas. The differential diagnosis on microscopy includes classical seminoma, lymphoma and embryonal carcinoma. Orchidectomy is the only treatment required. Radiotherapy and preventive chemotherapy are not indicated. We present a case of spermatocytic seminoma in a 52-year-old male patient to highlight its clinical presentation and to distinguish this tumor from classical seminoma.

Keywords: Spermatocytic seminoma, Testicular tumor

INTRODUCTION

Spermatocytic Seminoma is an uncommon testicular tumor which has distinct pathogenesis, histological features and immunohistochemical profile than classical seminoma and has good prognosis [1, 2]. We present a case of spermatocytic seminoma in a 52 year old male patient to highlight its clinical presentation and to distinguish this tumor from classical seminoma.

CASE REPORT

A 52 year old male patient presented with left sided testicular swelling since 5-6 years with gradual increase in size.

Investigation

Serum AFP- 5.6 ng/dl (normal <8.5ng/ml), all other investigations were within normal limits. Left high orchidectomy was performed and specimen was sent for histopathological examination.

Pathological features

Gross examination revealed well circumscribed encapsulated testicular tumor mass replacing entire testicular tissue. Cut section was homogenous grey white, soft and friable (Fig. 1)

Microscopy revealed non-cohesive neoplastic cells arranged in sheets with three distinct types of cells with predominance of medium size neoplastic cells having fine nuclear chromatin with dense eosinophilic cytoplasm. The second type of cell was small with dense nuclei and scanty cytoplasm resembling

lymphocytes. The third cell type was large cell with round to oval enlarged nuclei. Stroma showed edematous fluid background (Fig. 2 & 3).

Considering the clinical presentation, gross and microscopic features, the case was diagnosed as spermatocytic seminoma.



Fig. 1: Well circumscribed encapsulated tumor confined to testis

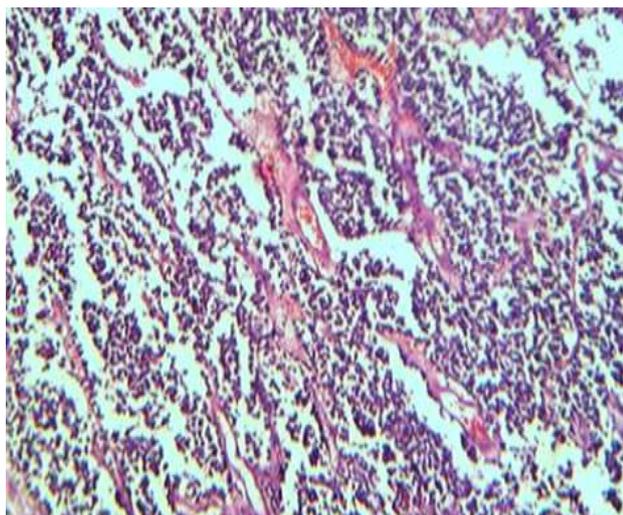


Fig. 2: Tumor cells arranged in sheets (100x H&E)

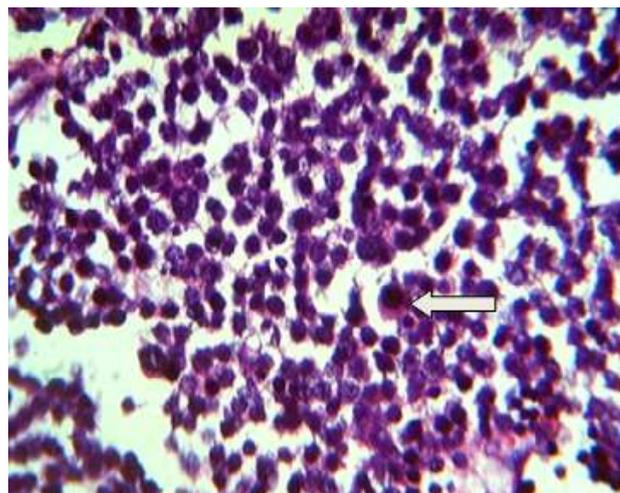


Fig. 3: Tumor showing three distinct cell types (arrow showing giant cell, 400x H&E)

Table 1: Features of Classical seminoma and Spermatocytic Seminoma

Sl. No.	Features	Classical seminoma	Spermatocytic Seminoma
1	Incidence	40%	2%
2	Age of presentation	20-50years	>50years
3	Site	Testis, ovary, mediastinum, retro peritoneum	Testis only
4	Occurrence in undescended testis	8-10%	No documented case
5	Cell types	One	Three types (small lymphocytes, intermediate, large cells)
6	Lymphocytic infiltration	Present	Rare or absent
7	Granuloma, necrotic foci	Present	Absent
8	DNA ploidy	Aneuploidy	Diploid or hyperploid
9	Intra-tubular component	Intra-tubular germ cell neoplasia	-----
10	Metastasis	Common	Rare
11	PLAP	Positive	Negative
12	CD117	Negative	Positive
13	Prognosis	Stage dependent	Better than classical (excellent)

DISCUSSION

Spermatocytic seminoma is an uncommon testicular tumor, first described by Masson in 1946. It represents 1-4% of all seminomas [1, 3]. This tumor has some striking distinguishing features from classical seminoma: Distinguishing features between spermatocytic and classical seminoma [3-7].

Our case also reveals similar clinical presentation, gross and microscopic features.

Differential Diagnosis

- Classical Seminoma (PLAP +ve, CD 117 –ve),
- Lymphoma (LCA +ve),
- Embryonal Carcinoma (Cytokeratin AE1/AE3 and CD30 +ve)^(4,8).

Treatment

Orchidectomy only. Radiotherapy or preventive chemotherapy are not required.

CONCLUSION

- Spermatocytic seminoma is uncommon testicular tumor.
- This tumor has distinct behavioral pattern and histological features than classical seminoma. Definitive diagnosis can be done with histopathological examination in support with immunohistochemistry.
- Since it has better prognosis than classical seminoma, correct histological diagnosis has a greater impact on treatment.

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