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A Case of Adult Granulosa Cell Tumour of the Testis Masquerading as Hernia with Hydrocele

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ABSTRACT

Granulosa cell tumours are extremely rare and very few cases of adult type have been reported till date . Granulosa cell tumours can broadly classified into juvenile and adult types. They are known to occur more commonly occurs in females (in ovaries) than in males (in testis) . We here reported here a case of 39 year old man who was diagnosed with testicular adult granulose cell tumour with no metastasis . A High Inguinal radical Orchidectomy was performed with histology demonstrating no invasion of the tunica albuginea , epididymis , spermatic cord and no lymphovascular invasion . The aim of the present report is to document another case of AGCT to summarize the knowledge regarding this rare tumour.

KEYWORDS: Granulosa cell tumor , Testicular tumor , Hydrocele , Orchidectomy.

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INTRODUCTION

Granulosa cell tumours of the adult testis are exceedingly rare originating from the epithelial component of the sex cord (1-3). Sex cord stromal tumours of the gonads are numerous including thecomas, fibromas , Sertoli , Leydig cell and granulose cell tumours (GCTS) (1).GCTs are divided into 2 different types : Juvenile and Adult . The Juvenile type is one of the most common testicular neoplasm occurring in the first 6 months of life (2).The Adult type is very rare and occurs over a broad age range .With advancement in technology and medical science a number of clinical , morphological and immunohistochemical methods have emerged that has assisted in diagnosis of AGCTT . In about half of case ; the clinical presentation is usually gradual , painless enlargement of testis over a variable period of time(3).

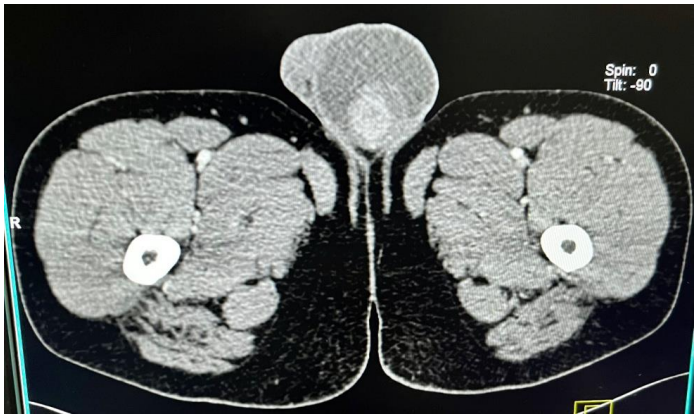
CASE REPORT

A 39 year old male patient, farmer by occupation came to our hospital OPD with complain of painless left sided inguinoscrotal swelling for last 4 months which has gradually increased in size. He had no history of dysuria, any urethral discharge , back pain , abdominal pain or any other recent illness .Although he had a history of trauma to left testis about 15 years back. There was no history of any genitourinary disease in past and no significant medical or surgical history .He has no addiction and regular bladder and bowel habits . Physical examination revealed a normal Right scrotum , testis and epididymis but a a 3 x 4 cm pyramidal soft swelling over left inguinoscrotal region , which was reducible with positive cough impulse , deep ring occlusion test positive .There was palpable hard left testis of uniform consistency with positive transillumination test (hydrocele) .Ultrasonoraphy was done which show a well defined hypochoic solid lesion of 48 x 28 mm with posterior acoustic shadowing and internal vascularity with micro – lobulated margins possibility of neoplastic mass of left testis with moderate hydrocele and left inguinal hernia .There is a defect measuring 20 mm through which omental fat seen herniating in right inguinal region .Thus to rule out malignancy Serum levels of alpha fetoprotein , beta – hcg and LDH were done and were within normal range . CT Abdomen and Pelvis was done which was suggestive of well defined heterogeneously enhancing soft tissue density lesion measuring 27 x 19 mm seen involving the left testis with moderate fluid in left scrotal sac suggestive of Left intra testicular mass with moderate hydrocele .CT was also suggestive of defect in bilateral inguinal region .In view of presenting complaint , clinical findings and radiological reports patient was admitted and was planned for surgery . He underwent left inguinal mesh hernioplasty with left sided radical high inguinal orchidectomy .The Hydrocele fluid

was sent for analysis .Excised testis tissue was sent for HPE Macroscopically HPE of testis was suggestive of : Testis with sac measuring 9.0x5.5x5.0 cm .The Spermatic cord measuring 8.0 cm in length . There was a 2.2x1.2x1.0 cm well circumscribed mass in the testis, on cut surface there was a yellowish white nodule with a slight red pallor. No Haemorrhage or Necrosis was seen.

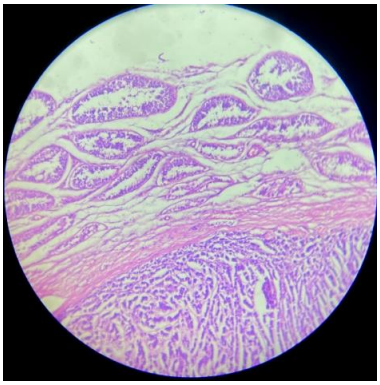
A)

B)

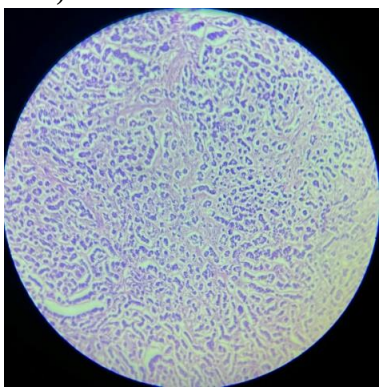


A) Orchidectomy specimen :sagittal section of the testis showing a solid yellowish white nodule .
B) Computed tomography scan of pelvis suggestive of enhancing mass in left testicle .
Microscopic evaluation of HPE revealed well circumscribed nodule consisting of micro follicles , cord and solid sheets of tumour cell . Micro follicles consist of palisading cell which surround eosinophilic material call-exner bodies .The cell appeared elongated with scanty cytoplasm and pale ovoid nuclei . The nuclei had longitudinal grooves giving them a coffee bean like appearance . At places mitotic figures could be seen.

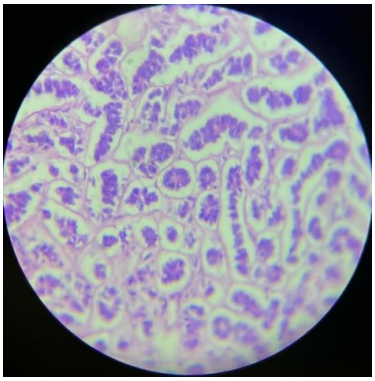
C)



D)



E)



(C) (HE Gx10): Densely cellular tumor proliferation with fibrous stoma, separated from the healthy testicular parenchyma by a fibrous pseudo-capsule.
(D) (HE Gx20): Densely cellular tumor proliferation made of cells with a scant cytoplasm in a fibrous stoma. The formation of rare Call-Exner bodies.
(E) (HE Gx40): Proliferation of cells with sparse cytoplasm and oval incised nuclei. Mitotic figures can be observed.

There was no evidence of haemorrhage, necrosis, sarcomatous differentiation or other germ cell elements. These HPE findings was strongly suggestive of the diagnosis of granulose cell tumour. Post operative our patient recovered well and was discharged On follow up, suture site had healed properly with primary healing.

DISCUSSION

Described for the first time in 1952, granulosa cell tumors are derived from epithelial elements of the sex cord, and they can be divided in juvenile or adult types. Granulosa cell tumors affect mainly white males, who usually present with a painless testicular mass Gynecomastia is present in 25% of cases, which is mainly due to hormonal abnormalities such as estrogen hypersecretion, or chromosomal abnormalities [4-7].

The diagnosis of sex cord-stromal tumors is mostly based on microscopic examination of specimen, and morphologic features [7]. Morphological diagnosis is based primarily on the typical morphology of the granulosa cells with their coffee bean like, angulated and grooved nuclei. Macrofollicles ought to be present, the presence of the Call-Exner bodies makes diagnosis even clearer; however, they

are not always found and thus, are sometimes not indispensable to diagnosis (8)

Immunohistochemically granulosa cell tumor is positive for inhibin, vimentin and calretinin, and negative for epithelial membrane antigen (EMA), placental alkaline phosphotase, synaptophysin and lymphoid markers. (9)

Some AGCTTs have the potential for distant metastases and thus poor outcomes, but otherwise they are non-functioning, slow growing, and most often benign. A relatively long survival period was found in patients with metastases to regional lymph nodes; however, deaths have occurred within a period of few months to a few years after metastases in patients particularly in those who already have distant metastasis and who exhibited rapid disease progression. The retroperitoneal lymph nodes are the most common involved in metastatic disease, but lung, liver, and bone metastases have also been reported. (9-10)

A number of risk factors for metastasis have been identified which includes: larger tumor size, presence of angiolymphatic invasion and presence of gynecomastia (10).However none of these factors have been found in our patient. Indeed, the CT scan also did not reveal any secondary localization. So we can say that the prognosis is good for our patient.

Initial line of management is orchidectomy. Retroperitoneal lymphadenectomy has been additionally performed in a few cases where metastatic disease was suspected. Metastatic disease may be managed with chemotherapy (etoposide alone or in combination with other agents) and adjuvant radiotherapy. (11)

CONCLUSION

Reporting every case of AGCTT is necessary to allow thorough analysis, to identify factors that can reliably predict tumor behavior and also to optimize various methods of diagnosis and treatment together with classic means of follow-up. Long-term follow-up with a sufficient number of cases may be needed to define optimal treatment options for patients with this rare tumor. Prognosis is good if diagnosed early and treated adequately.

CONSENT

Written informed consent was obtained from the patient and ethical committee of our institute for publication of this case report and accompanying images.

CONFLICTS OF INTERESTS

None

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