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RESEARCH ARTICLE

RARE CLINICAL PRESENTATION OF GERM CELL TUMOUR IN AN ADULT MALE: A CASE REPORT

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ABSTRACT

36 years old male patient who was being treated as right epididymoorchitis for the last 26 days at a private clinic came to urology OPD with non-resolving swelling of the right testis. Clinically right testis was enlarged as compared to the left testis with no tenderness and decreased sensation on the right side of scrotum. Ultrasound scrotum revealed heterogenous mass 2x2 cms in upper pole of right testis which was confirmed with CT scan, with no lymph node metastasis. βHCG (β human chorionic gonadotropin) and AFP (alpha feto protein) were within normal limits. FNAC confirmed seminoma right testis and was treated with right high orchidectomy.

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INTRODUCTION

Germ cell tumours of testis are common malignancy in males between 18-40 years of age. Incidence increases after the onset of puberty. The incidence of this type of cancer has increased progressively throughout the twentieth century (1). Testicular tumour comprises approximately 1% of all carcinoma in men. Histologically germ cell tumours are divided into two groups i.e; seminomas and non seminomatous germ cell tumours. Seminomas are subdivided into non-invasive germ cell neoplasia, tumour of single histological type, non-seminomatous germ cell tumours of more than one histological type, germ cell tumours of unknown type. Seminoma is the commonest tumour of single histological type and accounts for approximately 50% of testicular tumours. The other types of testicular germ cell tumours, teratomas, yolk sac tumours and choriocarcinoma may evolve directly from seminoma or embryonal carcinoma (2). Malignant behaviour depends upon the type of tumour present as well as clinical features including the age of patient and primary site (testicular versus retroperitoneal) since histologically identical tumours can behave differently depending upon clinical presentation.

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High inguinal orchidectomy is the standard initial treatment for suspected testicular tumour which allows accurate staging and histological diagnosis of tumour. Introduction of cisplatin based chemotherapy has revolutionised the management of testicular tumours, with considerable improvement in response rates and excellent outcome reported even in presence of metastatic disease.

Case details

36 years male patient working in paramilitary forces was treated for last one month as a case of right epididymoorchitis by a private practitioner. Patient presented in urology OPD with complaints of swelling and heaviness in the right side of scrotum which was not resolved with antimicrobial with anti-inflammatory therapy. On examination, patient's vitals were normal and local examination revealed right testicular enlargement as compared to left testis which was non tender. Patient did not feel the testicular sensations on palpation. No inguinal lymph node was palpable. Ultrasound of the scrotum revealed right testicular enlargement with heterogenous structure in the upper pole of the testis with hypoechoic area which was suggestive of carcinoma which was confirmed on CT scan (Fig. 1). Patient's BHCG and AFP were within normal limits. FNAC was suggestive of seminoma of right testis (Fig. 2).

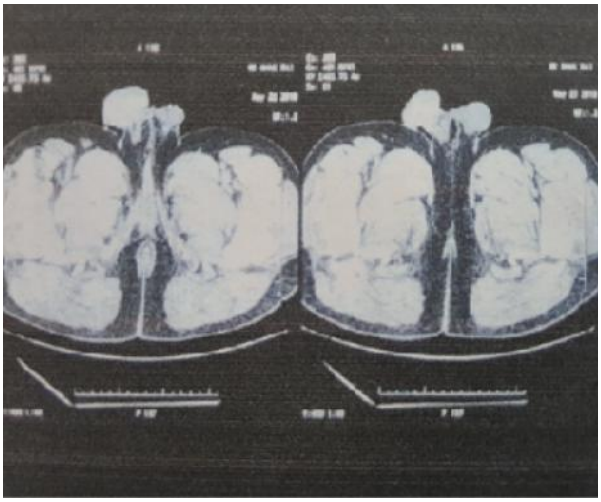

Figure 1. CT scan showing lesion in right testis.

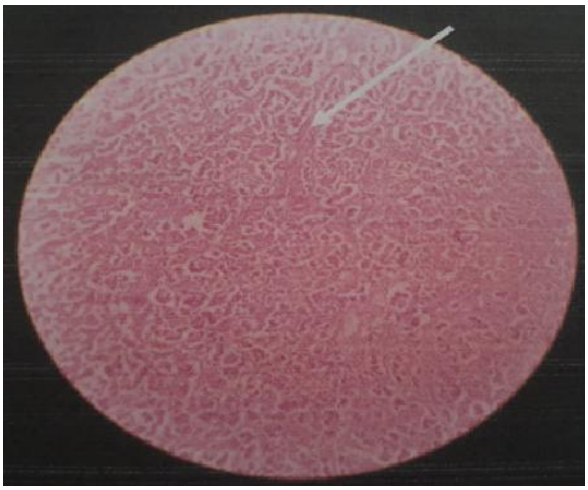

Figure 2. Shows fibrous bands surrounding tumour cells

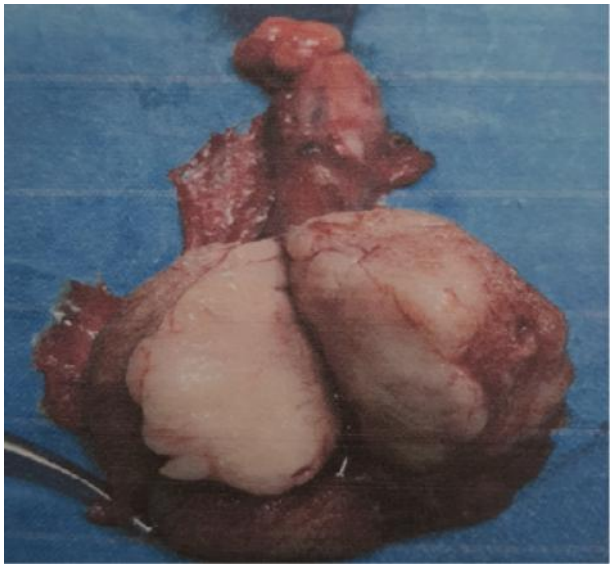

Figure 3. Gross appearance of testicular seminoma; solid tumour mass with lobular aspect on cut surface.

Patient was subjected to right high ligation orchidectomy (Fig. 3) under regional anaesthesia and post-surgery specimen conformed the diagnosis of seminoma with no lymph node involvement (Fig. 4). Patient had uneventful hospital stay and was discharged on 3rd postoperative day.

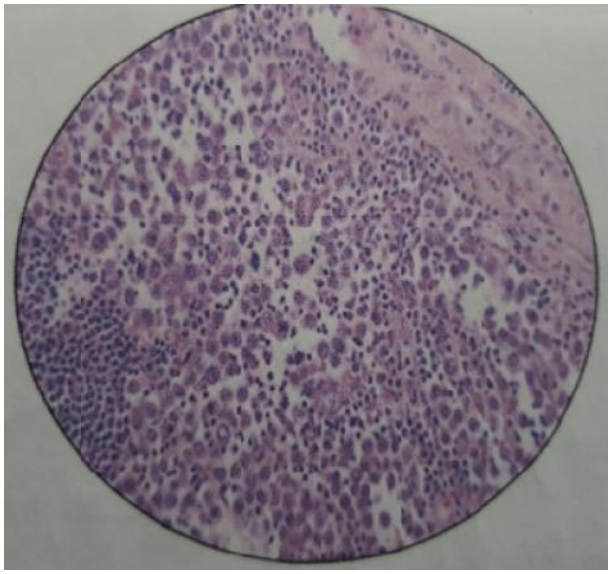

Figure 4. Loose sheets of large polygonal tumour cells, delicate fibrous septa and lymphocytic infiltrate.

Patient was advised to attend radiation oncology department for further management, and was not offered any radiation or chemotherapy. He was advised to repeat CT scan after 3 months.

DISCUSSION

It is generally accepted that the frequent occurrence of testicular carcinoma in young men and the rarity of disease in old men suggest that exposure and risk factors early in life possibly in utero are likely to be more important than exposure in adulthood. Also, the rapid increase in testicular carcinoma in young males is most likely the result of multiple risk factors acting in combination. However, the only well-established association is that between cryptorchidism and testicular tumours (3,4). Many aetiological hypotheses have been proposed to explain the increase in incidence of testicular cancer which include increased exposure to oestrogen in utero, early life exposure to virus, trauma to testis, parental occupational exposure, effects the male sex hormones and genetic factors.

The classic pattern of germinoma is distinctive and readily recognisable based on overall sheet like arrangement of clear cells with well-defined cytoplasmic borders (in well-fixed specimens) and flattened, squared-off nuclear membranes that is subdivided into variably sized, smaller groups of cells (alveolar aggregates, nests, clusters) by lymphocyte bearing fibrovascular septa. Occasional germinomas have a microcystic or cribriform arrangement that may suggest yolk sac tumour (5). Immunostains for cytokeratin (AE1/AE3), alpha-fetoprotein (AFP), and OCT3/4 (6) are helpful, typically staining negatively (AE1/AE3 and AFP) and positively (OCT3/4) in germinoma and showing opposite reactivities in yolk sac tumour. About 5% of the germinomas have distinct admixed syncytiotrophoblast cells (7). Germ cell tumours may represent a heterogenous group of malignant cell lines with variety of frequently overlapping histological pictures or with mixed components suggesting a common precursor embryonic cell dysfunction. Testicular tumour is an anatomically and clinically distinct entity and diagnostic practice in this disease has met changes.

Neoplastic disease progression, from normal to premalignant to malignant phenotypes, is associated with genetic instability manifested by alteration of gene expression that is often associated with characteristic morphologic phenotypes. It is generally well accepted that most but not all testicular germ cell tumours arise from a common neoplastic precursor lesion, intratubular germ cell neoplasia. According to this model seminoma evolve directly from intratubular germ cell neoplasia and embryonal carcinomas could arise directly from intratubular germ cell neoplasia or through an intermediate stage corresponding to seminoma. Our patient was diagnosed as a case of seminoma and confirmed by FNAC (fine needle aspiration cytology). He underwent right high ligation orchidectomy. In view of the localised disease with no lymph node involvement, the radiation oncology department choose not to give radiation or chemotherapy and asked for follow-up with CT scan after 3 months.

Conclusion

Substantial epidemiological variation may provide clues for development of specific etiological hypothesis. It appears that no other carcinoma shows such distinctive incidence pattern as between histological types of testicular carcinoma. Patients with a history of testicular germ sell tumour require careful long-term monitoring of the contralateral testicle due to risk of bilateral disease and potentially long latent period between the first and second tumours. With appropriate treatment the overall clinical outcome is good.

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