Epididymal germinoma: Reality or myth?

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Abstract

Epididymal tumours are rare, but definite pathological entity. Most tumours are benign, however, malignant lesions have also been reported. The common benign tumours are either leiomyomas or adenomatoid tumours. Malignant pathologies include primary epididymal adenocarcinoma, liposarcoma, leiomyosarcoma, malignant fibrous histiocytoma, mesothelioma and lymphoma. We present a case of a 45-year-old male referred urgently for suspected scrotal mass which on ultrasonography showed a lesion in the left epididymal head (possible granuloma).

Introduction

Epididymal tumours are rare yet a definite pathological entity. Most tumours are benign, however, malignant lesions have also been reported.¹ Common benign tumours are either leiomyomas or adenomatoid tumours. Malignant pathologies include primary epididymal adenocarcinoma, liposarcoma, leiomyosarcoma, malignant fibrous histiocytoma, mesothelioma and lymphoma.

Some cases of seminoma can present as primary tumour outside the testicle, in which case it is called "germinoma."^{2,3} No other case of primary epididymal seminoma has been reported in contemporary medical literature.

Case report

We present the case of a 45-year-old male referred urgently for suspected scrotal mass which on ultrasonography showed a lesion in the left epididymal head (possible granuloma) (Fig. 1).

The patient has a history of hay fever and was otherwise fit and well and not on any regular medication. There is no family history of testicular cancer.

He was seen in clinic and listed for excision of the granulomatous lesion under general anesthesia. He underwent left epididymectomy and left testicular biopsy without any complications. Interestingly, the histology of the epididymal lesion showed features are consistent with classic seminoma with dense lymphocytic infiltrate and granulomatous reaction (Fig. 2). Sections showed a tumour attached to the epididymis composed of groups and strands of polygonal cells with vesicular nuclei and prominent nucleoli separated by collections of lymphocytes forming in places lymphoid follicles (Fig. 3, Fig. 4). Focally, there is a prominent granulomatous reaction. The tumour cells contain glycogen as shown by PAS stain. On immunohistochemistry, the tumour cells show membranous positivity with placental alkaline phosphatase and CD117 (Fig. 5). They are negative with pancytokeratin and CD45 (leukocyte common antigen). The features are consistent with classical seminoma. The testicular biopsy shows normal spermatogenesis with no evidence of tumour or intratubular germ cell neoplasia. Testicular biopsy showed spermatogenesis with sloughing pattern.

The preoperative ultrasonography did not demonstrate any suspected malignant lesion in either testicle, yet the left testicle was noted to be smaller than the right. Currently, the follow-up scans remain satisfactory with no evidence of tumour recurrence in either testicle. There was no scar noted in either preoperative or postoperative scans suggestive of a burnt out germ cell tumour.

In view of the histology, this unusual case was discussed in the multidisciplinary meeting and arranged for staging computed tomography (CT) scan and tumour markers. Tumour markers levels were normal. Staging CT scan showed abnormal para aortic lymph nodes. The patient was referred to an oncologist. The positron emission tomography CT was arranged showing increased uptake in the enlarged left lower para-aortic lymph node suggesting metastatic disease.

Radiotherapy to para-aortic and left pelvic lymph nodes was administered and well-tolerated. A surveillance CT scan post-radiotherapy showed complete remission and his tumour marker levels remained normal. A recent ultrasound



Fig. 1. Preoperative ultrasound images.

1 year after the operation showed no recurrence in the testicle and the patient remains under follow-up.

Discussion

Classical seminoma is a malignant disease process evolving from the testicular tissue.^{4,5} Although extra-testicular seminomas have been noted, no case of primary epididymal seminoma has been reported.⁶



Fig. 2. 25x: Low power photomicrograph of the seminoma with a prominent granulomatous reaction and attached epididymis.

Epididymal tumours can be misdiagnosed as epididymal tuberculosis, chronic epididymitis and spermatocele. The epididymis can be affected by sarcoidosis, a non-infectious granulomatous disorder. Most suspected epididymal tumours could be diagnosed by ultrasonography and aspiration biopsy.

It is thought that due to the close proximity of the epididymis and testicular tissue, there was probable migration of testicular tissue into the epididymis during the embryonic stages. Later on, that migrated tissue underwent malignant transformation which presented as epididymal tumour.

Seminoma is a germ cell tumour of the testis. Seminoma originates in the germinal epithelium of the seminiferous tubules and is one of the most common of intra-testicular tumours. This type of malignancy remains highly treatable and curable with excellent radio and chemosensitivity.^{7,8}

Conclusion

Contemporary medical literature has various case reports and series of epididymal tumours (benign or malignant) reported. Primary epididymal tumours were mostly benign, yet seminoma of the epididymis has not been reported to the best of our information.

Competing interests: None declared.

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Fig. 3. 200x: High power photomicrograph of the seminoma composed of groups and strands of atypical polygonal cells with vescicular nuclei and prominent nucleoli separated by collections of lymphocytes.



Fig. 4. 100x: Medium power photomicrograph of the seminoma composed of groups and strands of tumour cells separated by collections of lymphocytes.

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Fig. 5. Immunohistochemical stains PLAP at 100x and CD117 at 200x showing membranous positivity.

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