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SPERMATOCYTIC GRANULOMA MASQUERADING AS EPIDIDYMAL CYST – A CASE REPORT

Pathology

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ABSTRACT

INTRODUCTION Spermatocytic Granuloma is a rare, non neoplastic granulomatous lesion that presents clinically as a nodular lesion in the region of epididymis, often misdiagnosed as epididymal cyst and other benign diagnosis like tuberculosis and acute and chronic epididymo-orchitis. **CASE REPORT** A male, 18 years old presented in the surgery department of GMC, Amritsar with complaint of swelling in right scrotal region since 15 days, insidious in onset, progressive in nature. There was no history of any trauma or surgery as well as no patient or family history of tuberculosis. On physical examination, 3 x 2 cm swelling could be palpated in right scrotal region. On ultrasonography, epididymal cyst was diagnosed. After surgery 3x2x1 cm grey brown soft tissue piece was sent for histopathology from upper pole of right testis which was homogenous on cut section. On microscopy there were seen aggregation of extravasated sperms surrounded by granulomas made of epithelioid cells and lymphocytes and multiple giant cells were also seen. AFB was done and it was negative. It was diagnosed as a case of spermatocytic granuloma on histopathology. **CONCLUSION** Spermatocytic granuloma is an important differential diagnosis of epididymal nodule or cyst and has to be differentiated from other benign or neoplastic lesions presenting as epididymal nodule.

KEYWORDS

Spermatocytic granuloma, epididymal cyst, epididymoorchitis

INTRODUCTION

Spermatocytic granuloma is a granulomatous lesion that presents as a nodular lesion in the region of epididymis. It represents a chronic immune response to extravasated sperms caused by trauma, surgery or infection.(1) The granulomatous reaction is probably induced by acid fast fraction of lipid from the sperms. The differential diagnosis of epididymal nodule are various benign and malignant conditions including tuberculosis, acute and chronic epididymo-orchitis and tumours, so distinction of spermatocytic granulomas from other more common tuberculous granulomatous infection is important (2).Spermatocytic granuloma is a rare disease and its incidence is still unclear worldwide.(3) Spermatocytic granuloma is common in epididymis followed by spermatic cord and testis. The most common clinical picture is unilateral swelling with scrotal pain and induration.

CASE PRESENTATION

A male, 18 years old presented in the surgery department, GMC Amritsar with complaint of swelling in right scrotal region since 15 days. The swelling was insidious in onset and progressively increasing in size. The swelling was not associated with any pain or fever. No other positive history or comorbidities noted. Patient was non smoker and non alcoholic and not on any medication.

On clinical examination the swelling was present in right scrotal region measuring 3x2 cm. It was firm, non tender, not associated with any discharge and overlying skin was normal. No lymph node was palpable in inguinal region. On ultrasonography spermatic cord was enlarged, inflamed and tortuous at the site of continuation with epididymis. The vascularity was mildly increased with maximum dimensions of 22x14 mm. Minimal fluid in bilateral scrotal sacs was seen suggestive of hydrocoele. Bilateral testes were normal. Enlarged lymph node with partial necrosis was seen in right inguinal region, largest measuring 7x6 mm. On ultrasonography, the differential diagnoses of right side funiculitis or epididymal cyst was made. During surgery, a cyst was seen on upper pole of right testis. Cyst fluid was drained. A hard nodule was seen measuring 3x2 cm on upper pole of testis. Excision of the nodule was done and sent for histopathology.

For histopathological examination we received a grey brown soft tissue piece measuring 3x2x1 cm. On cut section it was homogenous grey white. On microscopic examination the aggregates of sperms were seen surrounded by granulomatous foreign body inflammatory infiltrate comprising of epithelioid cells, lymphocytes and macrophage with numerous multinucleated giant cells. AFB staining was done and it was negative. The diagnosis of Spermatocytic granuloma was given on histopathology.

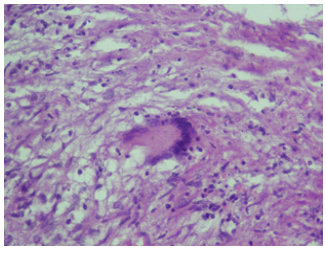

Fig 1. Multinucleated giant cell (H&E, X400)

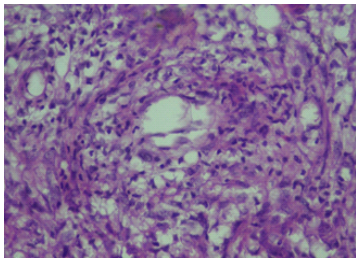

Fig 2. Granuloma comprising of epithelioid cells and lymphocytes (H&E, X400)

DISCUSSION

Spermatocytic granuloma is a chronic granulomatous inflammatory response which is caused by foreign body reaction caused by sperms or acid resistant lipids. The pathogenesis of spermatocytic granuloma is based on the tubular obstruction which results in increased luminal pressure and leakage of sperms which are due to highly antigenic

nature recognized as foreign tissue. These sperms overflow from damaged seminiferous tubules, epididymal ducts or vas deferens to the surrounding stroma. can result in formation of inflammatory granuloma.

The breakage of these tubules is often caused by inflammation, trauma, vasectomy, tumor, infection and other surgical procedure of adjacent sites. Among these causes , vasectomy is the most common with a rate of spermatocytic granuloma after vasectomy being 41%.(4) There are few reports of spermatocytic granuloma caused by inflammation, trauma , infection or tumor but it is a rare pathological finding(5). In this case the patient had no history of trauma or vasectomy. No underlying tumor was identified, so likely cause of spermatocytic granuloma in this patient was inflammation.

A spermatocytic granuloma is a rare benign condition identified in only 5-7.5% of epididymal nodules (6).There are three types of spermatocytic granuloma based on location including testicular, epidydimal and spermatic cord. The most common location is epididymis but it can also be seen on testis.(7) It is mostly unilateral. Spermatocytic granuloma is granulomatous foreign body reaction to extravasated sperms characterized by initial influx of neutrophils that are replaced by histiocytes and multinucleated giant cells which engulf the spermatozoa.(8) Spermatocytic granuloma lack typical clinical features and are often asymptomatic and can present with scrotal pain, palpable hard nodule in epididymis and seminal cord with squeezing pain

On ultrasonography spermatic granuloma is mostly located in tail of epididymis and hard nodules near scrotum and could be characterized by well circumscribed lesion which is hyperechoic or hypoechoic rim with reduced or absent blood flow. (9). There can be epididymal duct fibrosis or hyperplasia in contrast to tuberculosis in which there is diffuse enlargement of epididymis, irregular shape, mixed echo due to calcification. (10)

It is very essential to differentiate spermatocytic granuloma from other causes which present as epididymal nodules like epididymal tuberculosis, acute and chronic epididymitis, sarcoidosis or epididymal cyst. Another important feature is confusion with testicular tumors with granulomatous reaction and therefore it is very important to rule out the underlying cause.(11)

CONCLUSION

Spermatocytic granuloma though a rare benign cause of epididymal swelling needs to be differentiated from epididymal cyst, epididymoorchitis, tuberculosis, sarcoidosis or granulomatous inflammation associated with seminoma. Early and accurate diagnosis is essential to avoid complications such as rupture of granuloma secondary to inflammation.

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