



Case Report

Xantho-granulomatous orchitis: A rare case mimicking malignancy

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ABSTRACT

Testicular mass is an important and frequently encountered finding in hospital setting. Xanthogranulomatous orchitis (XGO) is an uncommon benign lesion and an important cause of testicular mass. It should always be kept as an important differential diagnosis while evaluating testicular lesions. We report a rare case of XGO in a 45-year-old male who presented with a right scrotal swelling. A provisional diagnosis of testicular mass; suspicious of malignancy was given. Right-sided orchidectomy was done. The excised mass was sent for a detailed histopathological evaluation. On histology, a definitive diagnosis of this rare entity was made.

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1. Introduction

Xantho-granulomatous orchitis (XGO) is a rare, non-malignant lesion diagnosed while evaluating testicular mass.^{1–3} Many at time, it becomes difficult to diagnose this rare entity based on clinical & radiological findings. A detailed histological evaluation is necessary to rule out any malignancy and give a definitive diagnosis of XGO.^{2,3} Very few cases of XGO have been reported in the literature till date.^{2–7} Here in we describe this rare entity in a 45-year-old male, who presented to hospital with right testicular swelling. Based on a detailed histological examination, a diagnosis of xantho-granulomatous orchitis was given.

2. Case Report

A 45-year-old male presented with right-sided scrotal swelling for the last 6 months. The patient had discomfort in his right testicle for last few months with radiating pain in the right groin. There was no history of trauma in the patient.

The patient's general examination showed presence of mild pallor and slightly elevated body temperature [99°F].

On physical examination, right scrotal sac appeared asymmetrical with a firm, tender, oval-shaped mass noted on palpation. The swelling was well localized with a clear boundary, measuring approximately 2.5x1.2 cm² in size. The right testis was normal in size and shape with no asymmetry or any tenderness. Ultrasound was done and showed presence of a solid heterogenous mass with suspicion of malignancy in the right testis.

On laboratory investigation, complete blood count revealed neutrophilic leukocytosis with white blood cell count of 16,500/cumm and neutrophils of approximately 87%. Routine biochemical parameters including liver & kidney function tests along with thyroid profile, blood sugar, lipid profile was well within the reference range of our laboratory parameters.

Hormonal study was also done and parameters like beta huma chorionic gonadotropin, lactate dehydrogenase, alfa-feto protein levels were within their normal range. An elective right orchidectomy was done and specimen sent for histopathological examination.

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Gross examination of the specimen showed intact capsule and cut section revealed a growth replacing the testicular parenchyma with yellow, soft areas with interspersed grey-white & grey-brown area (Figure 1).

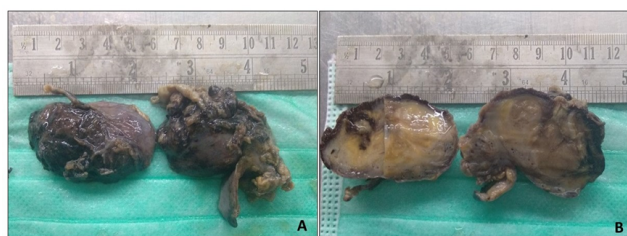


Fig. 1: A-B): Gross image showing the external capsulated testicular mass [A] and cut surface of mass [B]

On microscopic examination, the mass consisted of sheets of histiocytes with foamy cytoplasm, along with small numbers of lymphocytes, plasma cells, and few polymorphs (Figure 2). Preserved seminiferous tubules and vas deferens were also seen in the sections examined (Figure 3). There were areas of necrosis with suppuration, along with foci of granulomatous inflammation and presence of giant cells.

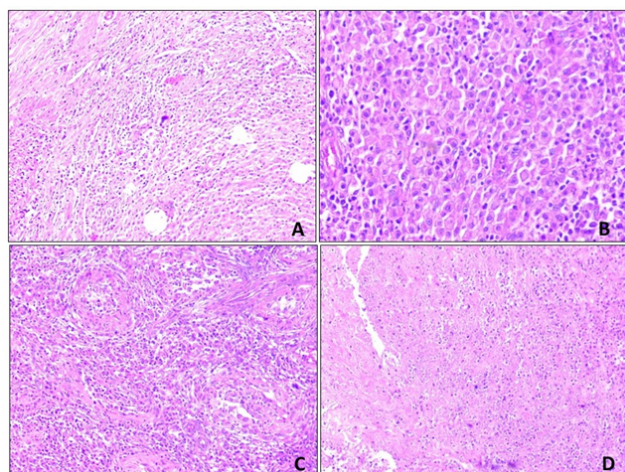


Fig. 2: A-D): Sections showing sheets of histiocytes [H&E stained: A, 20X; B, 40X]; focally preserved seminiferous tubules with extensive necrosis & inflammatory cells [H&E stained: C&D-20X]

Majority of the testicular parenchyma showed these histiocytes & increased vessels. Special stains like Ziehl-Neelsen, Periodic Acid-Schiff (PAS) were applied in the sections; however, no organisms were found. Based on a detailed clinical, radiological and histopathological examination, a final diagnosis of Right sided, XGO was made.

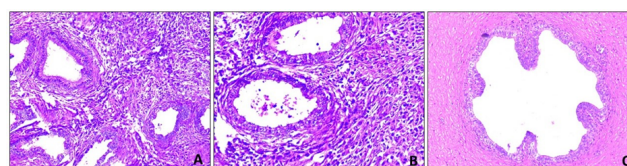


Fig. 3: A-C): Sections showed preserved seminiferous tubules [A, B- 40X] and vas deferens [C-40X]

3. Discussion

Xantho-granulomatous orchitis (XGO) is a rare entity where there is presence of mixed chronic & granulomatous inflammation.¹⁻³ It can also have an acute presentation. This is basically an inflammatory condition with no exact aetiology known in most of the cases. It was first described by Grunberg in 1926.²⁻⁴ It was described as non-specific inflammation of testicles, found in middle-aged & elderly males with no exact underlying cause. The usual age group involved is 50-70 years of age; however, cases have been reported in all age groups.²⁻⁵ Role of certain trauma, urinary tract infection, or some autoimmune causes have been implicated in its pathogenesis.^{3,4}

The clinical presentation can be acute as well as chronic. Usually, the patients present with unilateral swelling with sudden onset of pain in acute form. In chronic form, the patient presents with unilateral scrotal swelling with mild fever, haematuria, dysuria or hydrocele. Ultrasound shows diffuse hypoechoic or focal hypoechoic signals, based on which exact nature of lesion, whether it is benign or malignant, cannot be determined. Studies have shown that XGO shows diverse changes on radiology.³⁻⁶ In our case also, ultrasound suggested a possibility of a malignant lesion in right testis. Following this surgery was done.

The different provisional diagnosis which should be kept in mind while examining such patients are testicular infections like tuberculosis, bacterial epidymo-orchitis, syphilis, spermatogenic granuloma and testicular tumors.²⁻⁷ A proper clinical history, routine investigations and serological tests can help us in excluding many of the differential diagnoses. However, to rule out the possibility of testicular tumors, a thorough histopathological evaluation is much-needed for a confirmative diagnosis. This chronic granulomatous reaction can be seen in seminoma also, but presence of characteristic seminoma cells and immunohistochemical markers like AFP, CD30, glypican, etc can confirm the presence of seminoma. Testicular tumors usually are harder, nodular and painless with elevated levels of biomarkers like AFP, HCG, LDH, depending upon the types of tumors.⁵⁻⁷

On detailed microscopic examination, it becomes much easier to give a definitive diagnosis. Sections from XGO show granulomatous lesions surrounded by seminiferous tubules & tubular lumen along with epithelioid cells,

lymphocytes, plasma cells and sheets of histiocytes, which was the predominant finding in our case. In early part of infection, testicular parenchyma remains viable with presence of seminiferous tubules; however, replacement of spermatogenic cells do occur.^{6,7} Later in infection, fibrosis starts. In our case also preserved testicular parenchyma was noted with extensive sheets of histiocytes, focal necrotic areas, seminiferous tubules, vas deferens and occasional multinucleated giant cells.

Histopathological examination and correct diagnosis of XGO also help in excluding presence of any tumor in the testis. Conservative treatment for XGO is ineffective and require orchidectomy or orchiectomy with epididymectomy.

4. Conclusion

XGO is a rare inflammatory condition seen in testicular lesions. It is rarely encountered in clinical practice and exact cause is not known. This entity should be kept in mind while evaluating testicular mass. A definitive diagnosis of XGO is not possible based on clinical and radiological findings. Many a time, it mimics malignancy which require a thorough histopathological evaluation to arrive at a definitive diagnosis. Conservative management is not effective for XGO and orchidectomy should be performed.

5. Source of Funding

None.


6. Conflict of Interest


None.

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