International Journal of Radiology and Diagnostic Imaging

E-ISSN: 2664-4444
P-ISSN: 2664-4436
www.radiologypaper.com
IJRDI 2023; 6(2): 32-34
Received: 03-02-2023
Accepted: 09-03-2023

Hollis Hoi Ling Chan
Department of Radiology, North District Hospital, Hong Kong, China

Joyce Kwok Wing Lam
Department of Pathology, North District Hospital, Hong Kong, China

Kin Hoi Wong
Department of Radiology, North District Hospital, Hong Kong, China

Corresponding Author:
Hollis Hoi Ling Chan
Department of Radiology, North District Hospital, Hong Kong, China

Case report of xanthogranulomatous orchitis: Rare condition mimicking testicular tumour

Hollis Hoi Ling Chan, Joyce Kwok Wing Lam and Kin Hoi Wong

DOI: https://doi.org/10.33545/26644436.2023.v6.i2a.323

Abstract
A case report of a 78-year-old gentleman presented with scrotal mass mimicking testicular tumor on ultrasonographic examination. Excisional biopsy proven xanthogranulomatous orchitis which is a rare condition. The clinical presentation, radiological findings and management of xanthogranulomatous orchitis will be discussed.

Keywords: Xanthogranulomatous orchitis, xanthogranulomatous inflammation, scrotal mass

Introduction
Xanthogranulomatous inflammation is a rare condition which the exact etiology of remains uncertain. It is more commonly presented in the kidney and gallbladder. Xanthogranulomatous orchitis is an even more uncommon subtype of the xanthogranulomatous inflammation disease and remains a diagnostic challenge to differentiate it from testicular tumour. The clinical presentation, radiological findings and management of xanthogranulomatous orchitis will be discussed.

Materials and Methods
CARE checklist reporting guideline was implemented in the preparation of the manuscript.

Results
A 78-year-old gentleman with known diabetes mellitus with recent transurethral resection of the prostate (TURP). After the surgery, he complained of progressive right scrotal swelling and pain for one week. The patient also reported fever. Physical examination showed that the right scrotum was erythematous and swollen.

Blood results were unremarkable. White cell count was normal. In view of the possibility of malignancy, tumour markers (including alpha-fetoprotein and beta-HCG) were checked and both were normal.

Ultrasonography of the scrotum was performed. It showed that at the right testis lower pole, there was a 2.6 x 1.9 x 2.8cm eccentric heterogeneous hypoechoic lesion with increased vascularity, multiple hyperechoic foci and suspected extra-testicular extension. (Figure 1-3)

Based on the ultrasonographic appearance, it is suggestive of malignancy or inflammatory in nature. Unilateral orchidectomy was performed and intraoperative findings show that there was a 2cm hard lower pole mass over right testis.

The surgical specimen was sent for histology review and the overall features are suggestive of xanthogranulomatous orchitis with no evidence of malignancy. Routine out-patient clinic follow up was arranged for the patient.

Histology sections show a circumscribed lesion juxtaposing the testicular parenchyma, composed of predominantly histiocytic proliferation admixed with abundant mature plasma cells in spindled stroma. (Figure 4)

The differential diagnosis includes malacoplakia and Rosai–Dorfman disease. Michaelis–Gutmann bodies suggest malakoplakia, while emperipolesis suggest Rosai–Dorfman disease [1]. (Figure 5)

The overall features are suggestive of xanthogranulomatous orchitis. There is no evidence of malignancy.

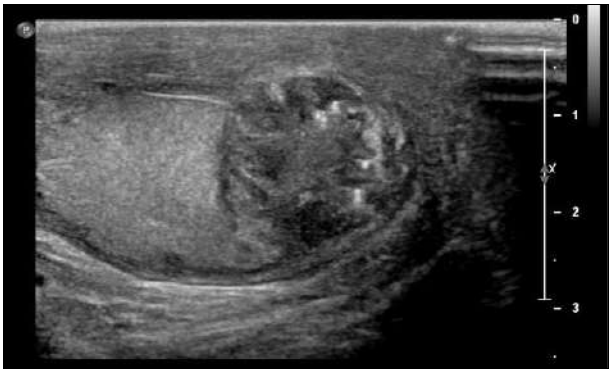

Fig 1: USG of right testis shows an eccentric heterogeneous hypoechoic lesion.

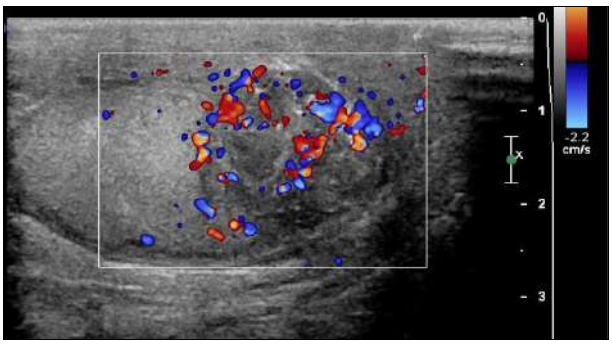

Fig 2: USG shows increase Doppler signal of the lesion representing increased Intralesional vascularity.

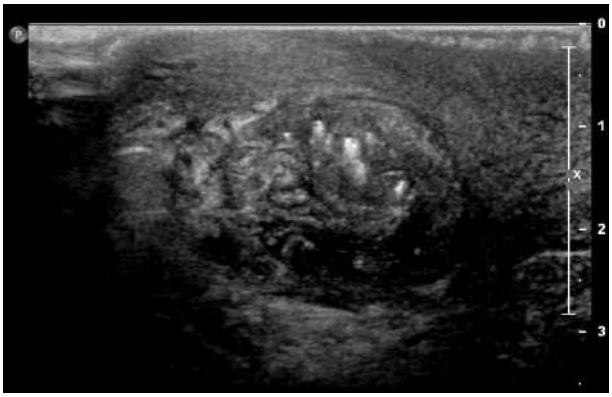

Fig 3: Multiple hyperechoic foci and suspected extra-testicular extension.

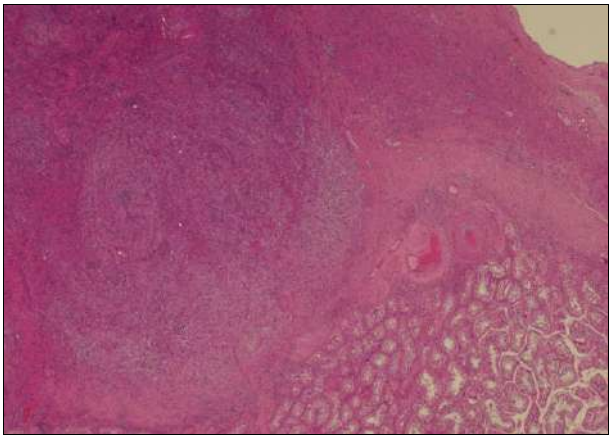

Fig 4: Histology shows the lesion is composed of predominantly histiocytic proliferation admixed with abundant mature plasma cells in spindled stroma.

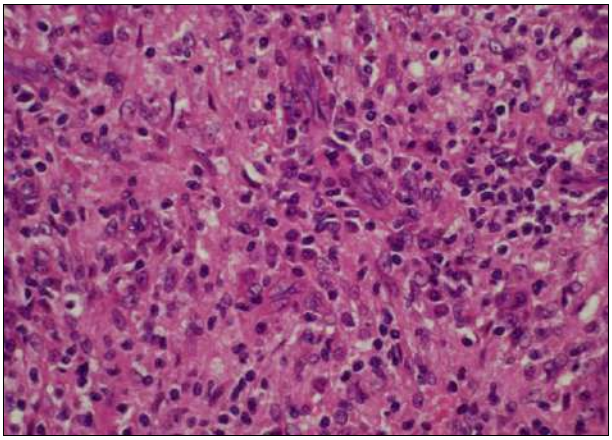

Fig 5: Michaelis–Gutmann bodies are absent in the sample.

Discussion

Xanthogranulomatous inflammation is a rare condition which is characterized by foamy macrophages, dense lymphocytes and plasma cell infiltration in affected tissue.

There are several hypothesised causes, which include immunologic defects, chronic infection with resultant abnormal phagocytosis of necrotic tissues and testicular ischemia. Another hypothesis is due to the obstruction of the epididymis, which is consistent with the obstructive mechanism similar for xanthogranulomatous pyelonephritis and xanthogranulomatous cholecystitis [2, 3]. Ascending or hematogenous infection also contribute to the underlying aetiology [4]. According to current knowledge and review of various available case reports, this inflammatory condition could be observed across a wide range of ages. The youngest reported case of this condition is a 13-year-old adolescent boy who presented with painless swelling on the left hemiscrotum [5]. To our knowledge, this is the first case reported in Hong Kong.

Although many theories have been proposed to explain the development of this pathology, the etiology of xanthogranulomatous infection remains obscure. Diabetes mellitus was reported as a major risk factor of xanthogranulomatous orchitis, which is also noted in this case [6].

Xanthogranulomatous inflammation is most commonly found involving gallbladder and kidney, yet it could involve various organs occasionally, such as testis in this case. Xanthogranulomatous orchitis is an extremely rare inflammatory disease presenting as a testicular mass. It is difficult to differentiate xanthogranulomatous orchitis from neoplastic lesions. Therefore, curative treatment is by either radical or partial orchiectomy due to the aggressive nature of this disease.

Conclusion

Xanthogranulomatous orchitis is a rare condition yet it could mimic testicular tumour presenting as a mass. Diagnosis of this condition requires pathological examination and definitive treatment includes radical or partial orchidectomy. This particular case serves as a reminder that rare conditions should be considered in the differential diagnosis of testicular mass, and it also contributes an additional example to the medical literature.

Acknowledgments

The corresponding author declares there is no conflict of

interest related to the work.

Conflict of Interest
Not available

Financial Support
Not available

References

1. Alazab RS, Ghawanmeh HM, Al-Okour RK, Alshammari A, Lafi T, Al-Karasneh AI. Xanthogranulomatous orchitis: rare case with brief literature review. Urology Case Reports. 2017 Jul 1;13:92-3.
2. Somani K, Singh P, Verma S, Tandon T. An unusual case of xanthogranulomatous orchitis: A tumor mimic. Apollo Med. 2019;16:174-6.
3. Wen YK, Chen ML. Xanthogranulomatous pyelonephritis complicated by emphysematous pyelonephritis in a hemodialysis patient. Clin Nephrol. 2007;68: 422e427. PMID
4. Yamashita S, Umemoto H, Kohjimoto Y, Hara I. Xanthogranulomatous orchitis after blunt testicular trauma mimicking a testicular tumor: a case report and comparison with published cases. Urology journal. 2017 May 23;14(3):3094-6.
5. Repetto P, Bianchini MA, Ceccarelli PL, Roncati L, Durante V, Biondini D. Bilateral xanthogranulomatous funiculitis and orchiepididymitis in a 13-year-old adolescent boy. Journal of Pediatric Surgery. 2012 Oct 1;47(10):e33-5.
6. Syed AA, Mannan R, Kahvic M, Sara YA, Bharati C. An unusual case of extensive xanthogranulomatous orchitis in a diabetic patient. Med Princ Pract 2009;18:418-21.

How to Cite This Article
HHL Chan, JKW Lam, KH Wong. Case report of xanthogranulomatous orchitis: Rare condition mimicking testicular tumour. International Journal of Radiology and Diagnostic Imaging. 2023;6(2):32-34.