



Malakoplakia of Testis: A Rare Case Report

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Abstract

Malakoplakia is a benign condition described initially in the urinary tract. Malakoplakia is an uncommon chronic inflammatory disease usually affecting the urogenital tract and often associated with the infection due to E. coli. It is characterised by the presence of Von Hansemann cells and intracytoplasmic inclusion bodies called Michaelis-Gutmann Bodies. The lesion mainly occurs in middle aged men, appearing clinically as epididymo-orchitis or testicular enlargement with fibrous consistency and some soft areas. Orchidectomy is the only way to differentiate the lesion from other malignant or infected processes. A 65 year old man presented with swelling of right testis since 3 months duration. There was a mild pain associated with swelling. There was no urinary disturbances to the patient. On examination, there was a swelling of right testis present. There was tenderness on palpation with preserved testicular sensations. The swelling was firm in consistency. Ultrasound shown, the testicular mass with heterogeneous lesion with solid and irregular cystic areas. Patient underwent right inguinal orchidectomy. Histopathology of specimen shows the features of malakoplakia of testis. Patient treated with antibiotics and symptomatic medications. Follow up of patient for 2 years was asymptomatic.

Keywords: Michaelis gutmann bodies, Malakoplakia, Plakia, Histiocytes, Orchidectomy.

Introduction

Malakoplakia is a benign condition described initially in the urinary tract, subsequently described in other organs like testis and epididymis. Malakoplakia is an uncommon chronic inflammatory disease usually affecting the urogenital tract and often associated with the infection due to *E. coli*⁽¹⁾. The condition was originally described by Michaelis and Gutmann in 1902⁽²⁾. The term malakoplakia was coined by Von Hansemann (from the Greek *malakos*, soft

and *plakos*, plaque) in 1903⁽³⁾. Testes are affected in 12% cases. Malakoplakia is characterised by the presence of large cells with abundant, eosinophilic cytoplasm (von Hansemann cells). In their cytoplasm there are typical inclusions called Michaelis-Gutmann (MG) bodies. These range from 2 to 10, um in diameter and give a basophilic reaction with haematoxylin dye. Special stains reveal the presence of calcium and sometimes iron salts. Frequently MG bodies have a concentric laminated (targetoid or 'owl's eye') appearance.

Case Report

A 65 year old man presented with swelling of right testis since 3 months duration. There was a mild pain associated with swelling. There was no urinary disturbances to the patient. On examination, there was a swelling of right testis present. There was tenderness on palpation with preserved testicular sensations. The swelling was firm in consistency. The size of the swelling around 5x4 cms. There was enlarged inguinal lymph nodes. On investigations, there was rise in neutrophil count with evidence of urinary infection of urine examination. Ultrasound of inguinoscrotal region revealed, heterogeneous lesion with solid and irregular thick walled cystic areas completely replacing right testicle with increased vascularity in solid areas-right testicular neoplasm with denerative changes. Multiple testicular abscesses less likely. Patient treated symptomatically and was planned for surgery. Patient underwent right inguinal high orchidectomy. On table, the specimen was hard in consistency with few areas of cystic nature of size 12x5.5x4cm. The specimen sent for hisopathology examination. External surface of specimen shows enlarged testis, of size 7x6x4 cm including epididymis. Cut surface shown solid with multiple cystic cavities filled with pus. Compressed testis is identifies at one end adjacent to the cavity. Microscopy of the specimen section studied shown destruction of normal parenchyma replaced by fibrocollagenous tissue infiltrated by inflammatory cells consisting of lymphocytes, plasma cells and large foamy histiocytes. These hystiocytes contain eosinophillic inclusions in their cytoplasm. These inclusions are PAS positive. These are michaelis guttmann bodies. These are all the features of malakoplakia. Final disgnosis of malakoplakia testis was made. Postoperatively patient improved well after treatment with antibiotics and symptomatic medications. Later patient discharged in stable condition. On follow up for 2 years patient was asymptomatic.

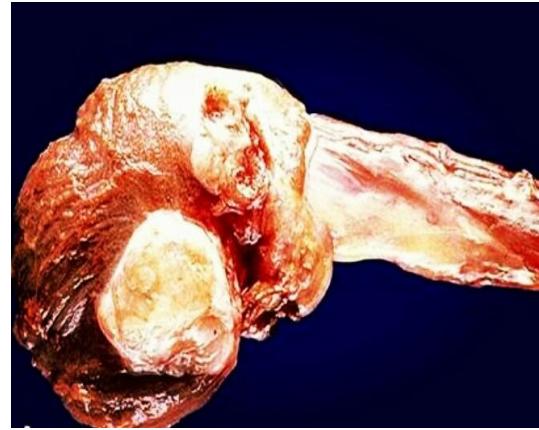


Figure 1: gross specimen testis

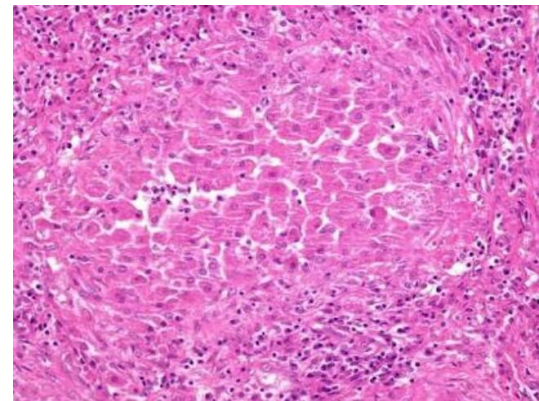


Figure 2: microscopy of testicular tumour

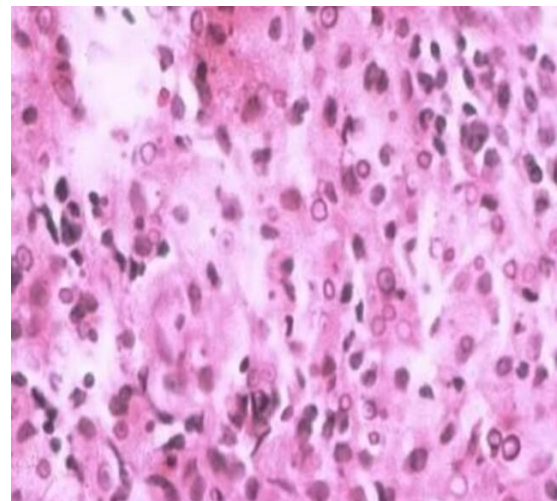


Figure 3: Michelis Guttman bodies

Discussion

Testicular malakoplakia is a disease of adult man. For unknown reasons it originates right side three time ou of four⁽⁴⁾. Pain and swelling are usual symptoms, but painless enlargement may also be seen. Patients history usually revels urinary tract infection. The first case of testicular malakoplakia was published in 1958 by Haukohl and

Chinchinian⁽⁵⁾. The lesion occurs mainly in middle-aged men, appearing clinically as epididymo-orchitis affected in 12% cases. Several theories have been put forth, with three factors playing a major role: altered phagocytic function of macrophages, gram-negative infection and an abnormal immune response⁽⁶⁾. Ineffective phagocytosis occurs due to defect in the lysosome response of macrophages to bacterial infections, usually by *E. coli*, as seen in our case. There seems to be an imbalance between cyclic adenosine monophosphate (AMPC) and cyclic guanosine monophosphate (GMPc), which causes inadequate lysosomal degranulation in the monocytes⁽⁶⁾.

The association of coliform urinary infection with testicular malakoplakia can be explained by the fact that testicular infection may be acquired by retrograde spread from the urinary tract and is intratubular initially. The Sertoli cells and macrophages interact with bacteria, forming intracellular phagosomes which may fuse to form giant cytosegrosomes which undergo calcification resulting in MG bodies⁽⁷⁾. Grossly the lesions are yellowish soft plaques as seen in our case or nodules. Microscopically Von Hansemann cells and intensely PAS-positive structures- MG bodies are pathognomonic of malacoplakia⁽⁷⁾. In a study by McClure, out of the six cases in whom testicular tissue was taken and cultured for microorganisms, *E. coli* was cultured in four cases, *Klebsiella pneumonia* and *Proteus* species in other cases⁽⁷⁾. Malakoplakia should be differentiated from the testicular tuomurs which it grossly mimics, while very rarely histological appearance also can be mistaken for leydig cell tumours⁽⁸⁾. Orchidectomy is the only way to differentiate the lesion from other malignant or infectious processes like granulomatous orchitis. Although an infectious aetiology is evident, no antimicrobial therapy has been successful in the long term. Fluoroquinolones, especially ciprofloxacin, are the first choice drugs due to 80% to 90% effectiveness⁽⁶⁾. Patients with malakoplakia should be followed up periodically.

Conclusion

Malakoplakia of the testis is one of the benign tumour of granulomatous inflammatory origin, which should be included as one of the differential diagnosis in patients presents with chronic testicular swellings. Those swellings should be treated by orchidectomy to exclude malignancy.

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