Case Report

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Malakoplakia of Testis: A Case Report

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ABSTRACT

Malakoplakia is an uncommon chronic inflammatory disease usually affecting the urogenital tract and often associated with the infection due to coliform bacteria (E. coli). It is characterised by the presence of VonHansemann cells and intracytoplasmic inclusion bodies called Michaelis-Gutmann Bodies. This condition is common in bladder (40%), Testes are affected in 12% cases. 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 from epididymoorchitis or infected processes and testicular malignancy. This is a case report of an elderly patient with testicular malakoplakia.

Keywords: *Testicular Malakoplakia, Michaelis-Gutmann Bodies, Von-Hansemann Cells*

Introduction

Malakoplakia is an uncommon chronic inflammatory disease usually affecting the urogenital tract and often associated with the infection due to E. coli [1].The term malakoplakia was coined by Von Hansemann (from the Greek *malakos*, soft and *plakos,* plaque) in 1903[2].The urinary bladder is the most commonly affected site, though involvement of the extravesical sites such as kidneys, testis, prostate and colon is also reported [1]. Malakoplakia is characterised by the presence of large cells with abundant eosinophilic cytoplasm called Von Hansemann cells and intracytoplasmic presence of calcified inclusion bodies called as Michaelis-Gutmann (MG) bodies.MG bodies term given on the name of Michaelis and Gutmann who originally described the condition in 1902 [3]. MG bodies range from 2 to 10 micro meter in diameter [4] and give a basophilic reaxtion with basic dye like haemotoxylin which exhibit a concentric laminated (targetoid or owl's eye) appearance [4,5]. Malakoplakia of testis is very rare. We are presenting a case report of testicular malakoplakia in an elderly patient.

Case Report

A 50 year male patient presented with painful swelling in left scrotum since 4 weeks. Clinical examination revealed swelling of the left scrotum with an erythematous overlying skin. Palpation revealed a firm, tender, indurated swelling with local rise in temperature. There was no evidence of regional lymphadenopathy, no urinary complains and no history of chronic illness.

Routine haematological and biochemical investigations were within normal limit. Urine culture revealed a significant growth of *Escherichia coli.* Ultrasound was done which showed an enlarged left testicle with highly increased vascularity on colour doppler study. A hypoecoic round shaped lesion was noted with no obvious vascularity within it, suggestive of a Abscess. A diagnosis of left epididymo-orchitis with intratesticular abscess was made. The patient was administered anti-inflammatory and antibiotic treatment but not improved clinically after 5 days of treatment. Patient underwent Left orchidectomy and biopsy sent for histopathological examination.

On histopathological examination grossly the specimen was measuring 75×50×30 mm, External surface was gray brown capsulated smooth to irregular with prominent vascular markings and cut surface showed well circumscribed grey white to grey yellow area with central necrosis measuring 45×25 mm. Microscopy revealed atrophy of the tubules along with interstitial infiltration by large number of histiocytes with abundant granular eosinophilic cytoplasm. The histiocytes showed intracytoplasmic Michaelis-Gutmann bodies. Occasional extracellular MG bodies also seen. In many other areas, there was somewhat ganulomatous appearance and abscess formation. Recut of sections taken for PAS (periodic acid Schiff), Perls Prussian blue (Iron stain) and Gram staining. Histochemically the MG bodies positive with PAS stain and perls Prussian blue (iron stain).The application of Gram stain reveal the presence of bacteria. A final diagnosis malakoplakia of testis was made.

Discussion

The testicular malakoplakia is a chronic inflammatory condition associated with coliform bacteria (E.coli). The

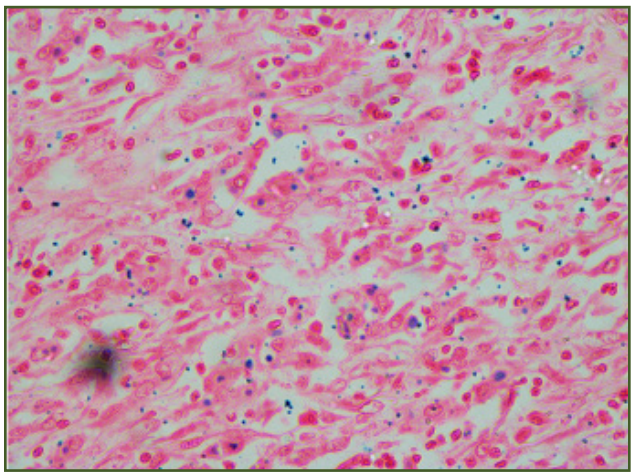

Fig. 1: High power view(40x) MG bodies showing iron stain positivity

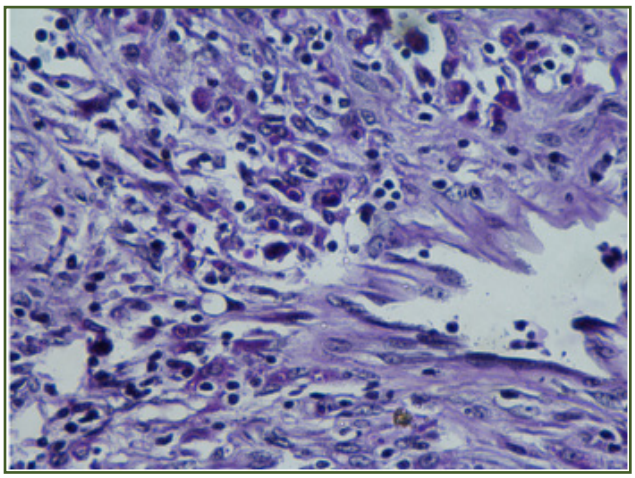

Fig. 2: High power view(40x) showing PAS positivity of MG bodies

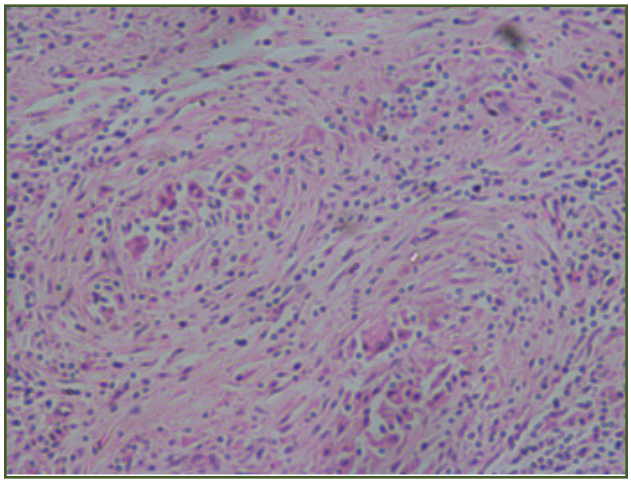

Fig. 3: High power view(40x) showing granuloma formation

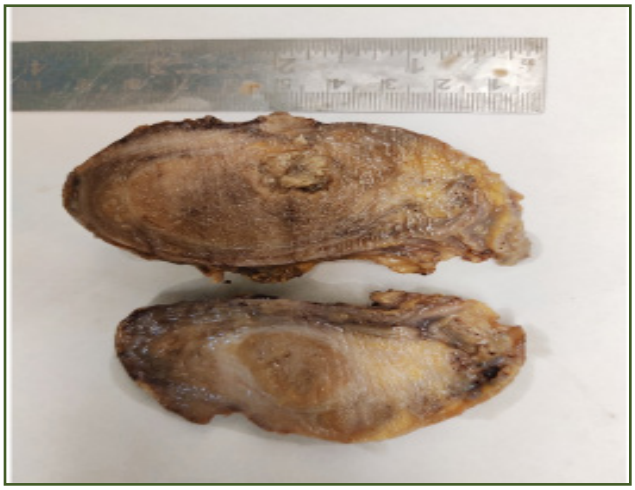

Fig. 4: gorss appearance of the specimen

testicular malakoplakia occurs mainly in middle-aged men, appearing clinically as epididymo-orchitis affected in 12% cases [3]. The presenting features are painless testicular swelling or fever and painful testicular swelling [1].

Several theories are described for the occurrence of the disease, includes: altered phagocytic function of macrophages, gram-negative infection and an abnormal immune response. Ineffective phagocytosis occurs due to defect in the lysosome response of macrophages to bacterial infections, usually by *E. coli*, as seen our case. There seems to be an imbalance between cyclic adenosine monophosphate (AMPc) and cyclic guanosine monophosphate (GMPc), which causes inadequate lysosomic degranulation in the monocytes [1].

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 [5].

An increased frequency of malakoplakia in immunocompromised patients is well established and seen in upto 40% cases [1]. Other conditions which can coexist include cancer, diabetes, alcoholic liver disease and tuberculosis [5]. No such coexistent illness was observed in our case.

The diagnosis of disease made after orchidectomy and histopathological examination. Grossly the lesions are yellow brown soft plaques as seen in our case. Microscopically testicular atrophy, sheets of histiocytes

with Michelis-Gutmann bodies which is the name given to intratesticular and extratesticular round structures containing iron and calcium [1]. MG bodies containing iron and calcium are pathognomonic of malacoplakia. MG bodies are intense PAS positive and iron stain positive [4], as seen in our case.

Orchidectomy is the only way to differentiate the lesion from other malignant or infectious processes like granulomatous orchitis. Although an infectious etiology 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 [1, 5]. Patients with malakoplakia should be followed up periodically.

Conclusion

Malakoplakia of the testis is an uncommon chronic inflammatory condition which should be considered in the differential diagnosis of testicular swellings especially in association with gram- negative infections testicular swelling and leyding cell tumour.

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Competing Interests

None declared

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