Malakoplakia of colon

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Introduction

Malakoplakia, first described by Michaelis and Gutmann in 1902 [1], occurs mainly in the genito-urinary tract (60% of cases), and less frequently in the gastrointestinal tract (10% of cases) [2]. Although the pathogenesis of malakoplakia is not completely understood, the disease may be considered the result of an impairment of the mononuclear phagocyte and immunoregulatory effector system [3]. The foci of malakoplakia characteristically consist of proliferation of histiocytes with the typical cytoplasmic inclusions known as Michaelis-Gutmann bodies that probably correspond to lysosomes. This rare condition may be associated with inflammatory and infectious diseases, immunosuppressive therapy such as steroids and with tumours such as colorectal carcinoma [4].

Case report

An 80 year old patient presented with intermittent pain in right side of abdomen for two years. Bowel and bladder habits were normal. He had diabetes mellitus and hypertension for ten years. There was no history of use of immunosuppressant medication. On examination there was a non-tender intra-abdominal lump 8x5 cms. in diameter and palpable in right lumbar region. Computerised tomographic scan of the abdomen revealed right colonic inflammatory pathology with extension into the right anterior pararenal space and abscess formation in the retroperitoneum along the anterolateral aspect of the right psoas and quardratus lumborum muscles ; ultrasound guided needle aspiration confirmed the abscess. Staining was negative for acid fast bacilli.

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At laparotomy we found an 8 x 8 x 5 cm firm to hard mass involving the ascending colon and right half of transverse colon (Figure 1). A right hemicolectomy was performed to remove the mass and part of the abdominal wall involved by the inflammatory mass. An ileocolic anastomosis was performed to complete the procedure. Furthermore, the retroperitoneal space posterior to ascending colon was fluctuantand revealed 150 ml of frank pus from right paravertebral, retrocolic space. Pus culture revealed Klebseilla oxytoca. Histopathological examination of the resected bowel revealed mixed inflammatory infiltrates in colonic wall showing sheets of histiocytes containing Michaelis-Gutmann lymphocytes, plasma cells and polymorphonuclear cells. Antimicrobial agents including piperacillin and tazobactum, metronidazole and gentamicin were given to the patient for five days. On post operative day seven, this patient developed anastomotic leakage, and despite re-exploration and repeat reconstruction, he succumbed to a cardiac arrest ten days after operation.

Discussion

Malakoplakia is a chronic inflammatory disorder. It is characterized by tumour like collections of sheets of large histiocytes with abundant granular eosinophilic

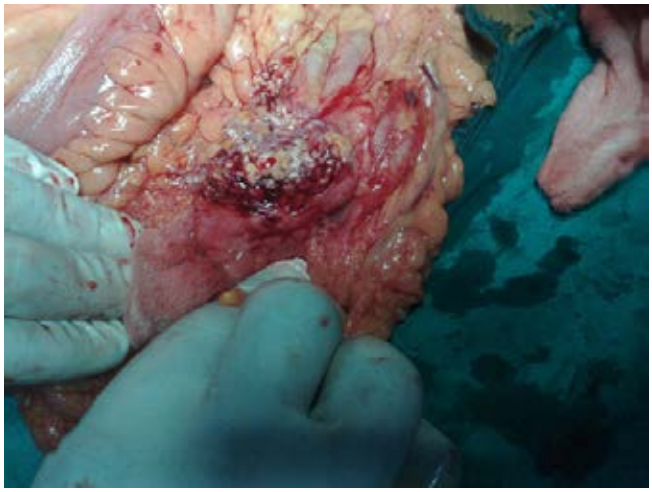

Figure 1

cytoplasm showing per-iodic acid Schiff (PAS) positive rounded bodies called Michaelis-Gutmann bodies. These primarily represent phagolysosomes. In 1903, it was named 'Malakoplakia' by Von Hansemann. The pathogenesis of malakoplakia remains obscure. It is a rare condition that occurs predominantly in the genitourinary tract [2] and less frequently in the gastrointestinal tract [4] - the rectosigmoid region is most commonly affected. The age of onset ranges from 6 weeks to 88 years, with a peak incidence in childhood and a second peak at an older age. Colonic malakoplakia has been reported immunodeficient states, such as lymphoproliferative diseases, severe infection, drug addiction, hepatic cirrhosis, and diabetes mellitus, either in isolation or in association with colonic tumours.

In our case, the right side of colon was involved with an associated psoas abscess. This is an unusual site for malakoplakia with only one case being reported to date which involved the ascending colon [5]. It seems likely that malakoplakia had developed as a result of altered tissue immune response against normal bowel flora. Diabetes mellitus was also one of the risk factors. In patients with malakoplakia, the disease process is usually progressive and refractory to treatment until underlying immunosuppresion is corrected. It may be the reason, along with diabetes, for this patient's anastomotic failure.

Many different therapeutic modalities have been described in the literature. The goals of treatment were to improve the killing capability of macrophages by attempts to elevate cyclic guanisine monophophate (C-GMP) levels in blood, elimination of underlying infectious causes with concurrent control of underlying immunosuppressant pathology in those with widespread disease. Surgical excision of localized lesions is usually curative. Antimicrobial drugs should be used in such patients to penetrate macrophages and destroy undigested bacteria.

References

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Key points:

- Malakoplakia is a chronic inflammatory condition.
- Rare, and predominantly effects the genitourinary tract.
- Colonic malakoplakia has been reported in immunodeficient states such as lymphoproliferative diseases, severe infection, hepatic cirrhosis and diabetes.
- Surgical excision of localized lesions is usually curative with treatment of underlying immunosupression.