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PRIMARY ACTINOMYCOSIS PRESENTING AS CHRONIC PERIANAL ABSCESS REPORT OF A CASE AND REVIEW OF LITERATURE

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A case of primary perianal actinomycosis in a diabetic male Bahraini patient is reported. Although rare, it should be suspected if a non-tender perianal mass on drainage shows thin pus and characteristic yellow sulfur granules. Special stains and anaerobic cultures confirm the diagnosis. Surgical drainage and antibiotic therapy usually eradicate the infection effectively. Bahrain Med Bull 1995;17:

Actinomycosis is a chronic suppurative disease that spreads by direct extension forming sinus tracts. It is caused by actinomyces species, a gram-positive branching anaerobic bacteria that forms part of the microbial flora of the mouth and the female genital tract. In the past actinomyces has been misclassified as a fungus. Three classic forms of actinomycosis are recognised. Cervicofacial, abdominal and thoracic - but the disease frequently presents in atypical form and can be confused with other infections or even neoplasms.

It is not clear what transforms carriage of the organisms into invasive disease. In tissues, actinomyces are seen as branching gram positive filaments surrounded by suppurative inflammation. The typical finding is a `sulfur granule' in pus. These granules are actually tiny bacterial colonies consisting of a central core of intertwined branching filaments with club-shaped bodies at the periphery known as eosinophilic clubs. These colonies are arranged spherically creating the sunburst pattern, recognised microscopically and for which the organism derives its name `Actinomyces'. In Greek, `aktis' means [ray] and `mykes' [fungus'][1]. To successfully culture actinomyces, which is often difficult, the specimen should contain sulfur granules, be incubated anaerobically on blood agar at 35oC-37oC and for 5-7 days as the organism is slow growing[2]. Due to the fastidious nature of these organisms, cultures are often negative. Therefore, treatment must be based on the clinical impression and Gram's stain[3].

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THE CASE

A 69-year old diabetic man was referred to the SMC outpatients' clinic with perianal pain and bleeding of four months. He had normal bowel habits. With a provisional diagnosis of posterior anal fistula, he underwent fistulogram which showed no communication with the rectum or anus. The sinus opening at 5 o'clock position could be cannulated whilst the other opening was opacified. The cannula showed an irregular tract 5-6 cm long, passing upwards, forward and slightly to the left and ending in a cavity about 1 cm in size with irregular margin.

After controlling his blood sugar with dietary control and insulin therapy, he underwent surgery. Incision and drainage of the abscess was carried out, and small pieces of granulation tissue and some pus were found. Histopathologic

examination of the biopsy revealed inflammatory exudate, granulation tissue and fibrosis in the dermis. Distinct basophilic `actinomycotic colonies' (ray fungus) were seen within the supparative foci (Fig. 1). Gram positive coccoid and bacillary forms showing characteristic V or Y branching were noticed which are due to the breaking up of the branching filaments. Gomori's methenamine silver also stained the organism clearly black. Culture examination of the pus was negative.

The patient was discharged 5 days after the operation. Although the wound completely healed two weeks after surgery, the patient complained of anal pain again. Clinically anal fistula was diagnosed and confirmed by fistulogram 3 months postoperatively.

DISCUSSION

Anorectal suppurative disease is common but infection by actinomycosis is certainly unusual[4] and deserves prompt recognition both by clinicians, surgeons and pathologists. Until 1965, there have been only 2 reports of primary rectal actinomycosis[4,5]. In our case, diagnosis of actinomycosis was not suspected initially but made on histology.

The first case of multiple perianal abscesses caused by actinomycosis was reported in 1988 by Harris and Metcalf[3] in an 81 year old diabetic woman. Her history was consistent with actinomycosis in terms of chronicity and failure to respond to conventional forms of therapy[3].

In 1992, 2 cases were reported in immunocompromised patients, one with diabetes mellitus and the other with human immunodeficiency virus[6]. The diabetic patient was a 27 years old man with a posterior anal fistula treated by fistulotomy. An abscess was formed 6 weeks later and although incised and drained, 2 months later the patient had a perianal abscess with numerous small yellow granules diagnosed as actinomycosis by Gram and Gomori stains. Penicillin was given for 6 weeks, and the patient was completely cured. The second case was a 42 year old homosexual man, seropositive to human immunodeficiency virus, who had a posterior anorectal abscess with anterior extension on both sides of the anus. Five years later he had actinomycotic abscess opening into the anal canal. After surgery he received oral penicillin for 6 weeks and was completely cured[6].

It is unusual for actinomycotic infections to occur in healthy individuals. The three cases reported in the literature as well as the present case had diseases affecting the immune system; diabetes mellitus and Human Immunodeficiency syndrome. Prior reports indicated that diabetes may be a risk factor associated with actinomycotic infections[7].

Both surgical and antimicrobial therapies are necessary to achieve complete eradication of actinomycotic infection. The surgical treatment of perianal actinomycosis requires adequate drainage of all abscesses, curettage of the sinus tracts and debridement of necrotic tissue. The observance of bright yellow sulfur granules is highly suggestive of actinomycosis. These should be examined microscopically and the microbiology laboratory needs to be advised about the possible diagnosis of actinomycosis because it takes up to seven days to isolate the organism in anaerobic culture.

CONCLUSION

Anorectal actinomycosis is rare and often missed. Awareness among laboratory staff and clinicians will help in its prompt recognition. Surgery has an important role as it can provide tissue for both histological and microbiological diagnosis.

Diabetes mellitus is common in our population and therefore detection of actinomycosis in this high risk group of patients will lead to a correct statistic of actinomycosis. A proper antibiotic course and choice will effectively eradicate such an infection.

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