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Letter to Editor

Necessity for Managing Bacterial Biofilm in Cases of Anal Fissure by Various Modalities

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The anal fissure harbors a great significance in field of surgery. It commonly involves anorectal region and usually becomes evident in thirties and forties of age group people. It is characterized by longitudinal breach in the stratified squamous epithelium of anoderm. It is located distal to the dentate line, usually present in the middle line posterior to the anus. So far exact etiology is not known. However, few identified factors for the pathophysiology includes the snug anal sphincter of multifactorial origin i.e. internal anal sphincter spasms, infections (maximally anaerobic ones), local traumas due to passage of hard feces or constipation, diarrhea and ischemia [1].

While Chronic Anal Fissures (CAF) follows a prolong course due to recurrence and deteriorations in acute anal fissure. The formation of biofilm by bacterial pathogens is considered to play a key role in its pathogenesis. A study report concluded that biofilm formed in CAF possess sturdier adhesive properties along with dense exopolysaccharide matrix. This results enhanced protection for environmental factors and antimicrobial drugs, ultimately causing delayed healing [1]. Therefore, to get the successful conservative management results, always remained a challenging task for the surgeons [2].

The symptoms of anal fissure can be severe pain on defecation, bleedings, and anogenital pruritus. It is commonly seen due to fecal contamination of the perianal area and repeated trauma by hard fecal passage or anogenital dermatoses [3]. In comparison to dermatologic conditions elsewhere on the body, quality of life gets maximally hampered by involvement of anogenital disorders [4]. It was concealed that anogenital skin is thin and sensitive, therefore the disorders of specific regions are difficult to treat [5]. The disruption in normal sleep pattern, mood swings, sexual function and personal relationship, all gets effected alot [4].

The conservative treatment modalities includes use of local nitroglycerin ointment, calcium channel blockers i.e. diltiazem, high fiber diet, warm sitz baths, laxatives, systemic antibiotics, local anesthetics, and steroid containing pomades. All these functions to reduce the tone of internal anal sphincter and hence trauma to anal canal. Amongst the group of antibiotics, topical metronidazole harbours a great significance. It is considered to be a derivative of 5-nitroimidazole having a lipophilic character and a bactericidal effect especially for the disruption of biofilms formed by various anaerobic bacteria. For prolonged infections systemic metronidazole, flouroquinolones and antiseptic Dioxisolum helps combating the infective pathogenic events. Failure of conservative management leads to the adoption of second stage and gold standard surgical management by lateral internal sphincterotomy. Prior moving towards the surgical management, intra-tissue electrophoresis with the current density of 0.05-0.1 mA/cm^2 with antiseptic, and antibiotics helps eradication for the biofilm in cases of CAF [1].

However, for severe cases of anogenital pruritus, dupilumab can be amongst good management options. This drug targets IL-4 receptor and is approved for the treatment of moderate-to-severe atopic dermatitis in adults. This biologic action inhibits IL-4-and IL-13-mediated inflammatory rejoinders, which in turn significantly reduces the disease severity and hence risk of skin infections [6]. Occasional reported side effects till date are of minor nature i.e. conjunctivitis (4%-5%) and injection-site reactions (8%-14%) [7].

In view of reducing the agony and sufferings of patients with anal fissure, it is suggested that use topical metronidazole for longer duration along with intra-tissue electrophoresis have proven promising fruitful outcomes. In coexisting etiologies like anogenital dermatoses, use dupilumab had proven to be an effective strategy.

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