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VARYING ANORECTAL DISORDERS: THEIR REMEDIES

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ABSTRACT: Anorectal disorders are often perceived in surgery practice and often reside with pain with shifting vigour. Endeavour has been made to lessen pain and avoid ligature. Minuscule hospital stay with early return to work is the main aim of developing newer techniques in the management of anorectal diseases. Diverse modalities with the main tensity on surgical interceding for managing more common anorectal disorders are discussed.

INTRODUCTION: The rectum is the ending part of the large intestine that closes in the anus. The range between 10 cm and 15 cm is considered the median length of the human rectum. Its diameter can be compared to that of the sigmoid colon at its beginning. Nevertheless, it becomes wide near the anus, forming the rectal ampulla. The symptoms that the patients with anorectal disease show are bleeding, pain, discharge, itching, protrusion, altered bowel habits, oozing and debauchery. Most patients with anorectal diseases are panicky, unsettled, excruciating, and anxious; hence, bonafide history with a focus on remonstrance will help procure the patient's credence before physical scrutiny and supervision accepted. In day-to-day practice, some familiar anorectal diseases encompass hemorrhoids, anal fissures anal abscess/fistula, and pruritis ani [1].

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Hemorrhoids: Hemorrhoids are typical vascular structures below the distant rectal mucosa and anoderm. All people from birth have hemorrhoids, and it becomes symptomatic once increased, inflamed, thrombosed, or prolapsed. Symptomatic hemorrhoidal tissues that are detected more than the dentate line are mentioned as internal hemorrhoids that fabricate bleeding and prolapse. Occlusion in external hemorrhoids ends up in painful swelling. Normally, patients whines of pain, itching, bleeding, or a mass.

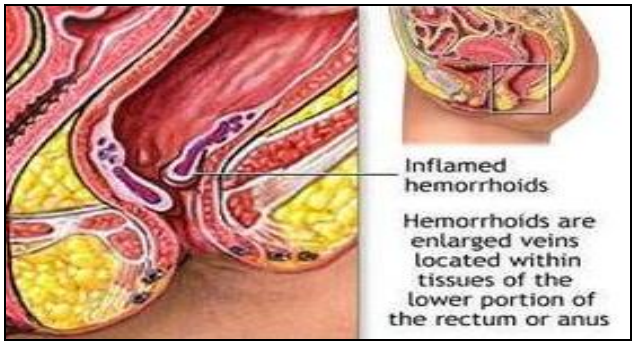

FIG. 1: STRUCTURE OF HEMORRHOID

Symptoms: Symptoms from hemorrhoids are coupled to the placement of the enlarged hemorrhoidal tissue parallel to the dentate line.

The placement of internal hemorrhoids adjacent to the dentate line and usually analogous to painless bleeding. Sharp-edged pain that happens with bowel movements is probably because of an associated fissure. Enlarged internal hemorrhoids may also prolapse, inflicting symptoms of pruritus or fecal soilure. Acute, persistent pain is sporadic with internal hemorrhoids and may occur with gangrenous prolapsed hemorrhoids.

Treatments:

Rubber Band Ligation: Rubber band ligation is a habitual office treatment for internal hemorrhoids. This involves placing a rubber band around a portion of inessential rectal mucosa. Diversification of instruments for applying a rubber band to the rectal mucosa have been told of. The main difference among the rubber band applicators is whether an instrument is used to grasp the mucosa and pull the tissue into the rubber band applicator or whether the applicator is attached to a suction device and the tissue is sucked into the applicator. There have been no reported differences in effectiveness for the various rubber band application devices, and the use is based on the surgeon's preference. Some advocate ligating only one or two hemorrhoidal bundles at a time to limit a patient's discomfort following the procedure [2].

Scleropathy: Sclerotherapy is one of the oldest reportable hemorrhoid treatments, dating back to the nineteenth century. Varied agents are represented as sclerosant agents. Sclerosant agents presently used are 5 % phenol in almond or vegetable oil or sodium tetradecyl sulfate, a sclerosant that the Food and Drug Administration approves just for treating little varicose veins of the lower extremities. The sclerosis mechanism of action is fibrosis of the submucosa, thereby extirpating the redundant tissue. The injection is carried out at the top of a hemorrhoidal bundle; 0.5 to 2 ml of 1% Sotradecol; otherwise, 1 to 3 ml of 5% phenol within the oil solution is leisurely injected just cephalad to the interior hemorrhoid bundle. The technique is eased by the use of a long needle such as a spinal needle that reaches through the anoscope. A raised wheel helps to confirm proper depth of injection.

Infrared Coagulation: Infrared coagulation is a technique that utilizes infrared light to create thrombosis and scarring of the hemorrhoidal tissue. An infrared device (Red field Corporation, Rochelle Park, NJ) consists of a light generator and a probe that facilitates treatment through an anoscope. A disposable plastic sheath is placed over the probe, and the apex of an internal hemorrhoidal bundle is treated with three to five 1- to 1.5-second applications of the infrared light. After each firing of the device, a 3-mm circular eschar can be identified on the treated tissue. Over the subsequent days, the underlying tissue thromboses and may slough. This technique is particularly useful for treating small hemorrhoidal tissue proximal to the dentate line that is not amenable to rubber band ligation. Treatment of tissue at least 1 cm. proximal to the dentate line does not require an anesthetic. Treatment just above or below the dentate line requires a local anesthetic. Infrared coagulation has been associated with only occasional minor bleeding and discomfort. Two prospective studies have reported success rates of67 to 96% following treatment with infrared coagulation in patients with first- or second-degree hemorrhoids [4, 5].

Treatment of Thrombosed External Hemorrhoids: Patients who present with acute thrombosed external hemorrhoids may be treated with oral analgesia, stool softeners, and warm sitz baths. Soaking in warm water may help alleviate the pain by decreasing the analsphincter tone. Symptoms gradually resolve over 7 days. In a prospective, randomized trial, Perrottti *et al.* demonstrated that topical 0.3% nifedipine and 1.5% lidocaine ointment twice daily resulted in faster resolution of pain than lidocaine alone [6]. Alternative treatments include incision of the overlying skin and evacuating the clot or excision of the thrombosis. The concern with incision and clot evacuation alone is subsequent bleeding and clot re-accumulation [6].

Surgical Hemorrhoidectomy: Although various variations of operative techniques for treating hemorrhoids are delineated, most hemorr hoidectomies performed these days are also classified into one amongst two approaches. Within the ‘‘closed technique, also stated as the Ferguson hemorrhoidectomy, the mucosa is reapproximated with a running absorbable suture [7].

The mucosa isn't reapproximated in the ‘‘open’’ or Milligan-Morgan technique [8]. These procedures may be done with the patient in the prone, lithotomy, or left lateral decubitus position, supported the surgeon’s preference and cooperation from the anesthesiologist. They may be performed below general, regional, or local anaesthesia with or without intravenous sedation. Intraoperative fluids ought to be limited to no more than 500 ml to assist decrease the chance of urinary retention.

Patients are schooled to take a cleansing enema (Fleet1240 mL; CB Fleet Co., Lynchburg, VA) before incoming for the procedure. There are varied practices concerning the utilization of prophylactic antibiotics in average-risk people. Due to immune suppression or relevant cardiac disease, prophylactic antibiotics should be given for patients at multiplied risk. When performing the procedure using local anaesthesia with intravenous sedation, 0.25% bupivacaine is injected into the right and left lateral quadrants at the lateral border of the external sphincter muscle. Extra passes of the needle anteriorly and posteriorly are performed to create a field block within the pudendal nerve distribution. Extra local anesthetic is also required to make sure of analgesia within the anterior and posterior midline.

A complete of 20 ml of local anesthetic is usually sufficient to obtain adequate analgesia. The anal canal is inspected and the distinguished hemorrhoidal bundles are recognized. Not all people have hemorrhoids in the standard distribution of right posterior, right anterior and left lateral positions. Although several authors report habitually performing three-quadrant hemorrhoidectomy, excision of one or enough areas commonly eliminates a patient’s symptoms [9, 10].

The extent of tissue excised should be determined by the patient’s symptoms and the extent of hemorrhoidal disease. It is vital not to remove an excessive amount of tissue. Adequate bridges of mucosa and anoderm should be left interposed between the suture lines.

The hemorrhoidal tissue is grasped with a curved clamp and the apex of the hemorrhoidal tissue is ligated with a 3-0 absorbable suture. The suture is left in situ with the needle attached to be used later. The skin at the distal border of the hemorrhoids is incised with scissors. A plane between the hemorrhoidal tissue and the underlying internal sphincter muscle is identified with careful dissection. With light spreading of the scissors, the hemorrhoidal tissue may be separated on the complete length of the interior sphincter muscle. Identifying the white, transversely oriented internal sphincter muscle is vital to avoid injury to this muscle, resulting in compromised continence postoperatively.

The mucosa and underlying hemorrhoidal tissue are then excised using electrocautery. The outline of the resected tissue typically resembles a sandglass with the narrowest points at the proximal and distal apices and at the dentate line. The dentate line is the most significant area in which to avoid resecting an excessive amount of tissue and making an anal stricture.

The mucosa is then re-approximated by running the suture that was originally placed at the proximal apex of the hemorrhoidal bundle. Proximal to the dentate line, interlocking the sutures may be useful for hemostasis. As the cut edges are reapproximated, attention ought to be paid to make certain that the dentate line is realigned. Imprecise alignment might end in mucosal ectropion and a resulting ‘‘wet anus.’

Anal Fistula: Fistula is an aberrant thoroughfare that liaise two epithelized surfaces; in manisfestation of anal fistulas, it attaches the anorectal region to the skin. The inner orifice of the pathway is mostly located in the anal canal, and the external orifice is in the perianal skin, thus distinguing a chronic suppurative condition [11, 12].

Depending on the Tract A Fistula has, it is Classified As: Inter sphincteric: are the most common variety (70%) and are the result of a perianal abscess.

Transsphincteric: Occur secondary to an ischio-rectal abscess; account for 23% of all anal fistulae.

Suprasphincteric: Are secondary to a supralevator abscess; seen in 5% cases

Extrasphincteric: Are the rarest varieties (2%).

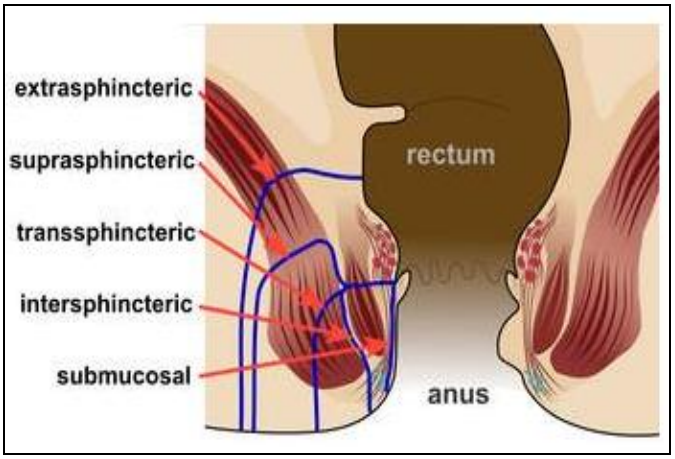

FIG. 2: STRUCTURE OF ANAL FISTULA

Clinically, a patient usually presents with sero-purulent drainage, pain during defecation, recurrent swelling and drainage and relief of pain after drainage. There is usually a previous history of an abscess that was drained spontaneously or by surgery. Additional symptoms related to the primary disease e.g.; IBD, HIV, actinomycosis, carcinoma, lymphoma etc may be seen in cases with secondary fistula in a no. Goodsall's rule, though accurate in only 70% cases, helps locate the tract and internal opening of the fistula.

Investigations in Anal Fistula: Investigations in the Anal fistula are to formulate a surgical strategy. Digital rectal examination is an important milestone in the assessment of anal fistula as localization of internal or primary opening is a must in planning any treatment strategy. The primary crypt palpation is possible digitally in about 90% of the patients. The introduction of hydrogen peroxide from an external opening with or without the use of methylene blue is another method of localization of the primary crypt [13]. 3D endocrinology will help in correctly delineating the tract in 94% of the patients [14].

Management of Anal Fistula:

Medical Management: Medical management is often recommended in patients suffering from inflammatory bowel diseases [15]. Even asymptomatic fistulas can be placed under observation after initial drainage of the suppuration and antibiotic treatment. Specific medical treatment of Crohn's disease and tuberculosis needs to be started after histopathological confirmation by biopsy in both these conditions is mandatory. This histopathology helps exclude neoplastic diseases.

Setons: Setons are other optional treatments for high trans-sphincteric and anterior trans-sphincteric fistulae in women, and they should be used in patients with a high probability of incontinence [16, 17]. The materials used for Setons are non-absorbable sutures like prolene, penrose drains, rubber bands, vessel loops, and silastic catheters. Two types of setons are used for the management of fistulas. The cutting setons that incise through the tissue and the non- cutting setons facilitate the drainage of the tract. It takes 3 weeks to 1 year to cut through the tissue [18, 19].

Surgical management Fistulotomy: This is the standard treatment for low simple anal fistulas, submucosal, and low inter-sphincteric fistulas. The indications are low cryptoglandular fistulas, low chronic fistulas, and simple fistulas where 30-50% of the tracts pass through the sphincter, which is not anterior in a single female tract non-recurrent, continent, non chronic [20]. Fistulotomy is usually considered a single-stage procedure, but it can be used as a staged procedure with subservient seton or glue therapy in compounded procedures. The incontinence rate varies from 0-40% in low inter-sphincteric fistulas [21]. Radiation ablation of the tract is another improvement in techniques of fistulectomy. It has decreased gas continence as radiation frequency ablation causes minimal damage to surrounding tissue [22]. Ultrasound dissection of the fistulous tract is a future advancement. The relapse rate of fistulotomy is 7-16% after 2 yrs of perpetuation. This recurrence rate increases to 40% after 6 yrs. Fistulotomy forms an important part of fistula management despite the high rate of incontinence and recurrence [23].

Fistulectomy: Studies have shown that fistulectomy does not offer any additional advantage over the Fistulotomy procedure.

Newer Modalities:

Fibrin Glue: it is a mixture of fibrinogen, thrombin, and calcium ions that form a soluble clot due to the cleavage of fibrinogen to fibrin. This clot seals the fistula tract in 30- 60 seconds. Between days 7 and 14 the tract is replaced by synthesized collagen [25]. Success rates of this procedure range from 31-85% [24, 26]. The reasons for failure have been quoted to be dislodgement (caused by inadequate removal of granulation tissue) and

abscess formation due to lack of complete tract filling with glue [27]. The advantages of this procedure are that it is a simple procedure without any learning curve.

There is no decrease in continence level, and other treatment options remain open in case of a failure.

Fibrin Plug: Since its first introduction in 2006 by Robb & colleagues, it has achieved a wide range of success from 14% to 87% [28].

The plug is made up of lyophilized porcine small intestinal submucosa shaped in a conical fashion, which increases the mechanical stability, thus avoiding dislodgement during straining.

The reasons for the failure of the plug are improper securing of the plug to the primary opening leading to dislodgement. Multiple fistula tracts have been associated with higher failure rates [29].

Adipose-Derived Stem Cells: have been used to treat complex anal fistulas. In comparison with fibrin glue, the results have been promising, with a recurrence rate of 17% at a one-year follow-up.

Mucosal Advancement Flap is a sphincter sparing procedure where endorectal/ endoanal flaps are advanced to close the internal ring with or without closure of the tract. The healing rate varies from 77-100%.

LIFT Procedure: It is the ligation of the intersphincteric fistula tract first described by Rojanasakul in Thailand. The reported success rate of the procedure was 58% [30].

Anal Fissure: is a longitudinal tear in the anal canal, occurring below the dentate line. It can be early or acute, or chronic if they persist greater than 8-12 weeks when they show edema and fibrosis (telltale signs of chronic inflammation).

Typically, a chronic fissure is canoe-shaped and associated with a skin tag (sentinel pile) at the distal end of the ulcer and a hypertrophied anal papilla at its proximal end within the anal canal.

90% of anal fissures are seen in the posterior midline. A typical clinical feature of an anal fissure is pain, occurring during and after defecation; bleeding, if present, is minimal.

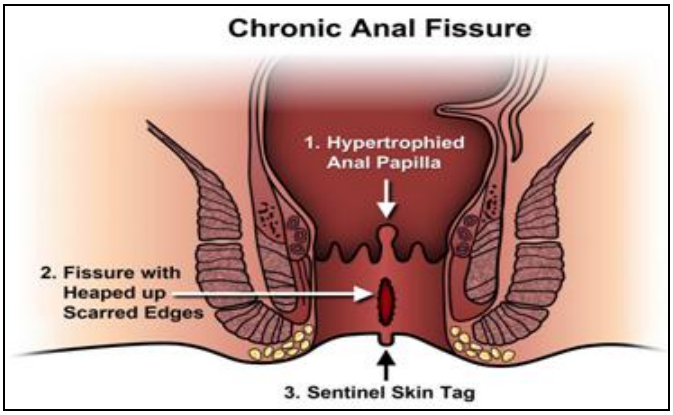

FIG. 3: STRUCTURE OF ANAL FISSURE

Diagnosisis: Made in the majority of cases based on history and local examination. The majority of anal fissures can be seen simply by spreading the buttocks apart, and a DRE/ Proctoscopy should be avoided, especially in acute cases. 50% of acute fissures respond to conservative treatment in laxatives, sitz bath, dietary fiber supplementation and local application of anesthetic & anti-inflammatory agents.

Medical Methods: With varying degrees of response are:

Topical Nitrates: (GTN 0.2%) [31, 32]. 500 mg is applied 2-3 times a day.

Calcium Channel Blockers: Diltiazem, Nifedipine. Nifedipine causes smooth muscle relaxation, and vasodilatation orally 20 mg twice daily for 8 weeks or topical Nifedipine 0.3% with lidocaine 1.5% twice daily for 6 weeks can be used [33, 34]. Bethanecol, 0.1% cream, reduces resting anal pressure.

Topical Sildenafil: 10% cream relaxes the smooth muscle by acting on PDE-5 receptors.

Botulinium Toxin: Paralysis muscle for 3-4 months [35, 36], thus aids healing.

Surgical management for chronic anal fissures has been managed with: Sphincter stretching under GA, Fissurectomy, and Lateral internal sphincterotomy. LLIS is now considered the standard gold treatment due to its high success rate in ulcer healing and low recurrence rate. Surgical management of chronic anal fissure has traditionally been accepted as an effective and standard procedure that results in fissure healing in

about 90% cases [37]. LLIS is the most simple and reliable method for relieving patient problems. LLIS is the standard gold treatment for chronic anal fissures [38].

Anorectal Abscess: An anorectal abscess originates from an infection arising in the cryptoglandular epithelium lining the anal canal. The internal anal sphincter is believed to serve normally as a barrier to infection passing from the gut lumen to the deep perirectal tissues. This barrier can be breached through the crypts of Morgagni, which can penetrate through the internal sphincter into the intersphincteric space.

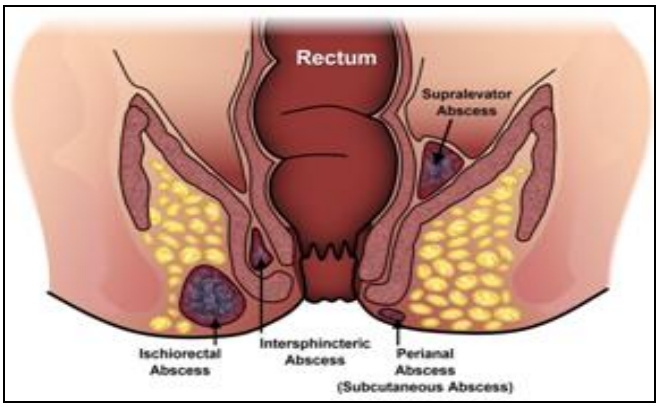

FIG. 4: ANORECTAL ABSCESS

Once infection gains access to the intersphincteric space, it has easy access to the adjacent perirectal spaces. Extension of the infection can involve the intersphincteric space, ischiorectal space, or even the supralevator space. Etiologic factors include TB, actinomycosis, lymphogralulomavenerium, trauma (surgery/foreign body), malignancy, and radiation anal fissure. The patient presents with symptoms of Severe Rectal pain, swelling, fever, and urinary symptoms. It is often impossible to perform a thorough examination in some cases. In case of gluteal pain, a tender mass may be palpated on rectal or vaginal examination.

Treatment: Decisive therapy for an anorectal abscess is a timely surgical incision and drainage. If the abscess is not drained promptly, it can cause needless pain, extend into other adjacent spaces, and produce serious infection [39, 40, 41, 42]. The painful or erythematous area can be examined for pus by needle aspiration to confirm the diagnosis, and then incision and drainage can be performed [39]. Even if the examination does not reveal palpable fluctuance or induration, "the presence of pain suggests the need to drain" (attributed to I. J. Kodner, by Cormanlo). In the emergency department, it is recommended that only patients with small, superficial abscesses undergo incision and drainage under local anesthesia; the vast majority of these abscesses will be of the perianal variety [43, 40, 42, 44]. These recommendations are based on the observation that for larger and more complicated abscesses, adequate drainage of the abscess and proper anorectum examination cannot be performed well under local anesthesia [44].

It is difficult to achieve complete anesthesia of the abscess cavity using local anesthetics because of the thin skin covering the abscess, decreased anesthetic activity at low pH found in infected areas, and further distention of the cavity with associated increased pain with infiltration of anesthetic. A suggested technique is to inject the dome of the abscess subcutaneously with a local anesthetic using a 25-gauge needle to spread anesthesia through the subcutaneous layers into the surrounding skin. An alternate approach is to infiltrate intradermally around the periphery of the abscess [43, 44]. Narcotic analgesics, conscious sedation with benzodiazepines, or administration of nitrous oxide may also be used to provide adequate ana1gesia [43, 44].

Following anesthesia, an incision is made into the anorectal abscess as close to the anal verge as possible to avoid forming a long fistulous tract [39, 40]. The pus is drained, and loculations are evacuated by blunt dissection. Following incision and drainage, the abscess cavity is packed with iodoform gauze. The patient should be instructed to remove the packing in 24 h and to start sitz baths 2 to 3 times a day. An analgesic should be prescribed.

The patient should return to the emergency department if the pain is not improved over the next 48 hours or if signs or symptoms of worsening infection develop. Surgical referral of the patient is needed for follow-up inspection of the wound in 24 to 48 h and for follow-up evaluation for the development of a fistula. Antibiotics are not needed following drainage, unless significant cellulitis, immunosuppression, valvular heart disease, signs of systemic infection, or diabetes exists [39, 42. In most cases,] inpatient care with systemic antibiotics would

be prudent. Patients with ischiorectal abscesses can undergo incision and drainage as an outpatient using a local anesthetic; however, if the patient is febrile, inpatient hospitalization with the administration of systemic antibiotics is recommended [39]. Both interspinchteric and supralevator abscesses need to be drainedin the operating suite under regional or general anesthesia. Definitive treatment of an intersphincteric abscess requires excision of the abscess *via* an internal sphinchterotomy [39, 46]. Depending on the exact location and extent of a supralevator abscess, surgical drainage may be via the rectum, perineum, or the vagina [39, 47, 48].

Pruritis Ani: Pruritus ani is the Latin term for "itchy anus," and describes all conditions that result in itching and irritation in the perianal skin. It can be seen in any age group; there is an increased prevalence in ages 30 to 50, as well as in men [49].

Local irritation- It is one of the main causes of pruritusani. Typically, the process is initiated by increased moisture, seepage, or leakage of fecal content onto the perianal skin. Typical causes of increased moisture include sweating/physical activity, prolapsing hemorrhoids, skin tags, fistulae, and anal fissures. Anal leakage can also occur from dietary factors such as caffeine, alcohol and spicy foods [50]. Stool consistency also plays a role, and patients with diarrhea often complain of irritation of the anal margin.

Once moisture and subsequent maceration begin, the patient often takes several steps to alleviate symptoms and eliminate the general feeling of being unclean. Patients often admit to overzealous cleaning of the area, which includes vigorous scrubbing in the shower and the use of medicated wipes after bowel movements. These steps often lead to worsening irritation secondary to local trauma. Baby wipes or wet wipes can contain several chemicals, including alcohol and other astringents that can be particularly damaging to the already compromised perianal skin.

Unfortunately, patients often react to this worsening irritation by increasing the aggressiveness of their local hygiene, and a deleterious positive feedback loop is created. Infection-Several infections are known to cause pruritusani. Candida infections are relatively common and can be present in 10% of patients [51]. This fungal infection occurs in moist or sweaty environments, including in the deeper folds of obese or elderly patients. It can also be associated with tight-fitting clothing. Candida can occur in immunosuppressed patients or patients taking antibiotics for other reasons. Patients often present with erythematous plaques, often accompanied by satellite lesions. Antifungal powder or lotion can be used, depending on the moisture level of the perianal region [51].

Oral antifungal agents such as fluconazole can also be used for severe infections. Streptococci and *Corynebacterium minutissimum* (erythrasma) can also be associated with pruritus but are less common and often not represented in cultures of the perianal region.

Treatment: The patient should be admonished not to scratch the area, as this may lead to more excoriation and irritation. Although spoilage of the perianal region is a common etiology of pruritus, many patients cause more excoriation through overzealous hygiene.

The use of soap, particularly scented ones, should be avoided; warm water alone can be used, and the area should not be scrubbed vigorously during bathing or after toileting. The use of prepared wipes and witch hazel pads should be avoided; unscented toilet paper moistened with warm water is preferable.

The region should be patted dry, or a hairdryer on a cool setting should be used. The use of loose-fitting cotton underwear should be encouraged to allow for natural aeration. If the patient complains of moisture in the perianal region, sprinkling the area with baby powder and placing a dry cotton ball on the anal verge can help alleviate symptoms and provide a tactile reminder not to scratch the area. If dry skin is an issue, non-scented, hypoallergenic moisturizing creams may be applied instead. In cases of spoilage, the skin may be protected by a barrier cream. Berwick's solution (crystal violet 1%, brilliant green 1%, 95% ethanol 50%, distilled water as much as sufficient 100%) can be applied in severe cases of spoilage or irritation, followed by cool air drying.

This is covered with a tincture of benzoin and dried once more, and the sealant may remain on the skin for up to a week [52]. Patients with loose stools may be treated with fiber or low doses of antimotility agents to decrease bowel frequency and firm up stools. Capsaicin, a component of chili peppers, has been suggested as a treatment of pruritus due to its ability to suppress histamine release and the subsequent itch-scratch response [53].

CONCLUSION: Anorectal disorders are common and can significantly impair a person's quality of life. Diagnosis is put together by inclusive days of old symptoms, visual inspection and digital rectal examination, and selective tests. Diet, bowel habits, and lifestyle changes are often the first-line therapy for hemorrhoids and minor irritation.

When conventional remedy is not efficacious, in-office ligation, sclerotherapy, or infrared coagulation for hemorrhoids must be considered. Surgery is reticent for those with tenacious symptoms or grade 4 diseases.

The goal of medical treatment for chronic fissures is to cut back the cycle of spasms and tearing. Softening stool and control movements minimize trauma. Topical medical aid like nitroglycerin or nifedipine may be effective, though injection of botulinum toxin or surgery could also be required for refractory fissures.

Painful swelling characterizes the presentation of an anorectal abscess. Treatment of an abscess needs incision and evacuation of the lesion, typically without antibiotics unless the patient is immunocompromised. Symptomless Crohn's fistulae can be watched, whereas symptomatic fistulae need a surgical operation.

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