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A Review on Hemorrhoidal Disease

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Abstract: Hemorrhoids are the symptomatic enlargement and distal displacement of the usual anal cushions. Hemorrhoids' most typical symptom is rectal bleeding that occurs during bowel movements. Hemorrhoids are most commonly identified by the abnormal dilatation and distortion of the vascular channel as well as damaging alterations in the supportive connective tissue within the anal cushion. A potential focus for medical treatment appears to be the dysregulation of vascular tone and vascular hyperplasia, which may be crucial in the development of hemorrhoids. Hemorrhoids are typically treated conservatively with a variety of techniques, including dietary changes, fibre supplements, suppository, delivered anti-inflammatory medications, and the administration of venotonic medicines. Sclerotherapy and, preferable, rubber band ligation are non-operative methods. When non-operative, an operation is indicated. Attempts have fallen short, or issues have arisen. One of the most common diseases with a substantial influence on quality of life is symptomatic hemorrhoid illness. Hemorrhoid illness can be managed in a variety of ways, from conservative approaches to various office and operating room procedures. This review discusses the pathogenesis, management, diagnosis, and therapy of hemorrhoids. The most frequent cause of office visits is hemorrhoids. Since there are many, different treatments accessible, each patient's treatment can be customised.

Keywords: Hemorrhoids, Rectal bleeding, Thrombosis, Management, Treatment

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Introduction

Hemorrhoids are a very common anal-rectal condition defined as symptomatic enlargement and distal displacement of a normal anal pad. They affect millions of people around the world and

cause major medical and socio-economic problems. Several factors have been claimed to be the cause of hemorrhoidal development, including constipation and prolonged exercise. Abnormal

enlargement and distortion of the vasculature associated with destructive changes in supporting connective tissue within the anal pillow are major findings of hemorrhoid disease (Loder *et al.*, 1994). Inflammatory reactions (Morgado *et al.*, 1988) and vascular hyperplasia (Chung *et al.*, 2004; Aigner *et al.*, 2009) may be evident in hemorrhoids. This article first reviews the pathophysiology and other clinical background of hemorrhoid disease, followed by a review of current approaches to non-surgical and surgical treatment. Hemorrhoid disease is the fourth most common outpatient diagnosis of the gastrointestinal tract, with 3.3 million outpatient visits in the United States. (Everhart and Ruhl, 2009) The annual incidence of self-reported hemorrhoids in the United States is 10 million, which is equivalent to 4.4% of the population. Peak incidence has been reported between the ages of 45 and 65 for both men and women. In particular, whites are more commonly affected than African-Americans, and higher socio-economic status is associated with increased prevalence. (Johanson and Sonnenberg, 1990) Factors that contribute to the increased incidence of symptomatic hemorrhoids include conditions such as pregnancy and exertion that increase intra-abdominal pressure or weaken supporting tissues.

Anatomy of hemorrhoids:

Along the anal canal, haemorrhoids are three rows of vascular smooth muscle and connective tissue: left, anterior, and posterior right. These collections can be thought of as sine waves rather than arteries or veins because they do not have muscle walls (Shafik, 2009). The anastomosis between the superior rectal artery and the superior, middle, and inferior rectal veins is commonly surrounded by haemorrhoids in healthy individuals. However, rather than referring to the typical anatomical structure, the term "haemorrhoids" is frequently used to describe the pathological process of symptomatic hemorrhoidal illness. The classification of a haemorrhage depends on where it is in relation to the dental line. Below the dentate line, external haemorrhoids form

embryonically from the ectoderm. They have an anode covering that consists of squamous epithelium and are pain-producing lesions that are innervated by the somatic nerves that feed the skin in the perineum. The inferior rectal vein, the pudendal vessel, and finally the internal iliac vein are where the venous drain of an external hemorrhoid travels through. The internal haemorrhoids, on the other hand, originate from the endoderm and are located above the tooth line.

They have columnar epithelial coverings and are innervated by visceral nerve fibres, which prevents them from producing pain. The middle and superior rectal veins, which empty into the internal iliac arteries, are part of the vascular drainage of internal haemorrhoids. Internal haemorrhoids are further divided based on the severity of prolapse, however, external haemorrhoids have not been clinically classified. Primary internal haemorrhoids have a distinct vascular pattern but do not escape from the canal. Second-degree haemorrhoids can be forced out of the canal by straining or urinating, but they usually go away on their own. The three haemorrhoids need to be manually reduced when they are freed from the canal. Even with manipulation, fourth-degree haemorrhoids cannot be reduced (Banon *et al.*, 1985).

Pathogenesis of hemorrhoidal disease:

Uncertainty surrounds the precise pathophysiology of hemorrhoidal development. Because haemorrhoids and anorectal varices are now known to be separate conditions, the varicose veins theory, which for years held that haemorrhoids were caused by varicose veins in the anal canal, is no longer valid. In actuality, patients with varices and portal hypertension do not have a higher prevalence of haemorrhoids (Goenka *et al.*, 1991). The sliding anal canal lining theory is now widely accepted (Thomson, 1975a). This suggests that haemorrhoids form when the anal cushions' supporting tissues break down or degrade. Therefore, the pathological name for the aberrant downward displacement of the anal

cushions that results in venous dilatation is haemorrhoids. The right anterior, right posterior, and left anal cushions are the three main anal cushions that are generally present. Several small cushions are positioned between them on the left side of the anal canal (Thomson, 1975b).

Management and treatment of haemorrhoids:

Management of post-operative pain (POP):

It is advised to start taking laxatives or bran a few days before surgery because they lessen the discomfort of the first POP. Early in the surgery, pudendal blocks with long acting local anaesthetics are advised since they minimise POP for around 24 h (Luck and Hewett, 2000). The multipedicle hemorrhoidectomy procedure hurts more than previous procedures. Due to the risk of incontinence, associated sphincterotomy is not advised POP (Mathai *et al.*, 1996). POP is unaffected by the use of scissors, a cold scalpel, or electrocoagulation. Contrarily, early POP can be decreased by using thermofusion (LigaSure™) (Milito *et al.*, 2010) (level 1) and ultracision (Harmonic scalpel) (Chung *et al.*, 2002). To prepare early post-operative discomfort, analgesics should be given pre-operatively or during surgery, and they should be continued afterward. Due to the side effects of opiates (urinary retention, nausea, vomiting, and constipation), non-opioid analgesics such as paracetamol in combination with non-steroidal anti-inflammatory medications should be used as first line therapy (White, 2008). Urinary retention is more likely when nefopam is taken right after surgery. If the aforementioned analgesics are ineffectual, weak opioids like codeine and tramadol may be helpful, especially when removing the pudendal block.

Standard surgical procedure:

Essentially, traditional surgery entails the removal of the piles. Surgery was discovered to be the most efficient treatment option in a meta analysis of 18 prospective randomised studies comparing it to outpatient techniques such rubber band ligation, sclerotherapy, and infrared coagulation.

Hemorrhoidectomy performed open (Milligan Morgan) or closed (Ferguson). The most widely utilised procedures include hemorrhoidectomy (Jayaraman *et al.*, 2006). Urinary retention, postoperative haemorrhage, discomfort, anal stenosis, and incontinence are complications linked to these procedures (Chen and You, 2010).

Hemorrhoidectomy:

Frequently, the open hemorrhoidectomy surgical method of choice for treating severe acute gangrenous haemorrhoids that cannot be treated because of tissue necrosis and edoema of the mucosa (Pattana-arun *et al.*, 2009). Prior to surgery, the entire mechanical bowel preparation is not advised. Furthermore, there is no advantage to administration of antibiotics during surgery (Wesarachawit and Pattana-arun, 2007)

Sclerotherapy:

Patients with grade I and grade II acne might consider sclerosing. Patients using anticoagulants may benefit from this treatment for internal haemorrhoids. Sclerotherapy, like rubber band ligation, requires no local anaesthetic, carried out using an Internal haemorrhoids are found and injected using an anoscope. A sclerosant substance, typically a solution containing vegetable oil phenol enters the submucosa. It is sclerosant, subsequently results in fibrosis, anal canal fixation, and eventually, the superfluous hemorrhoidal tissue will disappear. Sclerotherapy risks include slight pain or bleeding. Rectal fistulas or perforations, however, can be quite, injection errors are extremely uncommon (Barwell *et al.*, 1999).

Conclusion

Hemorrhoid disease is a common but complex disease. Patients who present with signs and symptoms of hemorrhoids should be carefully evaluated to exclude other masquerading entities. There are a multitude of options for the management of hemorrhoid disease and specific treatment choice should be based on individual patient and clinical factors.

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