What Causes Hemorrhoids?
A New Theory of Etiology*

C. W. GRAHAM-STEWART, M.S., F.R.C.S.
From the Harrogate Hospital, Yorkshire, England

It is not surprising that hemorrhoids have been the subject of many published reports. It is one of the commonest of all surgical disorders. In 1850, de Montègre prepared a list of 78 articles published from 1582 to 1817 concerning hemorrhoids, but few contributed significantly to knowledge of the cause or treatment. A factor that has either eluded the attention of investigators, or defied satisfactory explanation, is the fact that venous dilatation of internal hemorrhoids is limited to the superior hemorrhoidal plexus of veins lying in the upper portion of the anal canal. It is the purpose of this paper to elucidate the mechanism of this phenomenon.

Engaged in the controversy through the years, over the actual nature and etiology of hemorrhoids, have been Avicenna, Stahl, Alberti, Morgagni, Petit, Le Dran, Récamier, de Montègre, Dupuytren, Quénu and Hartmann, the Allinghams, Gass and Adams, Copeland, Bodenhamer, Verneuil, and Hiller.

Listed by these authors, among the predisposing factors involved in the etiology of hemorrhoids, have been the organic structure of the parts, heredity, temperament, physical constitution, climate, season, age, sex, customs, habits, morbid condition of the digestive organs, pregnancy, puerperal state and suppression of hemorrhages in other areas.

Among the exciting causes listed have been cathartic abuse, foods, enemas, constipation, irritation of the rectal outlet, the passions, sedentary life, tight lacing, anal spasm, atony of the anal sphincters, rectal suppositories, vaginal pessaries, emmenagogues, obesity and liver obstruction.

There are two main types of hemorrhoids which are varicosities of the superior hemorrhoidal plexus of veins, classified by degree according to the presence or nature of prolapse. In young persons, especially men, the bluish dilated venules can be seen clearly through the thin mucous membrane. The body of the pile consists of
distended vessels which can be demonstrated easily, at operation, after the anal sphincter has been stretched. Under similar conditions, the varices in older people can seldom be visualized so easily; instead they appear to consist mainly of thickened mucous membrane which conceals the underlying veins. The former have been termed vascular hemorrhoids, while the latter are characterized as mucosal hemorrhoids, and it is believed that they have a different etiology.

Quenu and Hartmann, utilizing a technic of vessel injection, demonstrated a minor degree of dilatation of the superior hemorrhoidal plexus in normal children and with a specimen from an adult, prepared in the same manner, they not only demonstrated typical hemorrhoids (Fig. 1) but provided a key to the understanding of their causation. It should be noted that venous dilatation is confined to the superior hemorrhoidal plexus.

Verneuil claimed to have discovered that at points where the superior rectal veins perforate the wall of the rectum, they pass through "veritables boutonnieres musculaires" (muscular buttonholes) which, not being surrounded by protective fibrous tissue, can contract and cause sufficient stasis and congestion in the superior rectal veins to constitute the chief factor in the causation of internal hemorrhoids. According to his theory, these buttonholes are both the active and passive cause of hemorrhoids, because any intestinal irritation produces spasmodic contraction of the muscular apertures and these contractions are communicated to the levator and sphincter ani muscles.

Hiller suggested that the flow in the superior rectal veins was reversed in internal hemorrhoids and this could be proved by withdrawing a speculum partially from the rectal outlet, when hemorrhoids could be seen to fill with blood as the inferior rectal veins were occluded by the instrument. He considered that this supposed reversal of flow was caused either by compression of the superior rectal veins...