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Hemorrhoid veins, the forgotten realm of the vascular surgeon

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Hemorrhoids have been a part of the human anatomy since the beginning of humankind. Interestingly, although hemorrhoids are inherently "vascular" structures, and can be enlarged because of vascular disease (portal hypertension, for example), it appears that vascular surgeons have always avoided this part of the body. Hemorrhoidal veins, by definition, are venous structures. In looking through several vascular surgery texts, it is striking to note that there is no mention of hemorrhoids in the typical vascular surgeon's library. Several recent texts specifically written about venous disorders fail to even mention hemorrhoids.[1,2] One text, *Surgical Management of Venous Disease* by Raju and Villavicencio, simply states this about hemorrhoids, when describing patients with vulvar varicosities: "Hemorrhoids were present in 87% of our patients."[3] Older vascular surgery texts, like *Vascular Surgery* by de Takats, in 1959, mention that hemorrhoids and vaginal varices often follow vena caval occlusion.[4] Rutherford, in 1984, in his extensive *Vascular Surgery* text, simply mentions that hemorrhoids can be associated with portal hypertension.[5] Apparently, hemorrhoid veins might be considered the "Rodney Dangerfield" of the vascular system, getting no respect. When one of the early vascular surgery fellowships was started in 1966 at Walter Reed General Hospital (later named Walter Reed Army Medical Center), there was considerable discussion among involved general surgeons and cardiovascular surgeons about the relatively new area of interest in peripheral vascular surgery, setting it apart from cardiovascular surgery. An early consideration was that peripheral vascular surgery could start in the proximal ascending aorta just distal to the origin of the coronary arteries. The cardiovascular surgeons participating were comfortable with this decision. At the other end of the vascular system, however, everyone was adamant about stopping before being involved with the hemorrhoidal veins. This was even with the knowledge that considerable postoperative hemorrhage following the traditional hemorrhoidectomy of the 20th century could create significant challenges for surgeons and threats to patients. Hemorrhoid hemorrhage could even involve mandatory blood transfusions. The early interest in vascular surgery in the United States concentrated on the arterial side, with avoidance of the venous system to the point that one of the early peripheral vascular fellows (who later became the physician to a United States President) answered the telephone by announcing: "Peripheral Arterial Clinic."

What are hemorrhoids, and how do they relate to vascular surgery? Internal hemorrhoids, characterized by a relative lack of sensation, are found above the dentate line of the anal canal, while external hemorrhoids, acutely sensitive, are below the dentate line. Patients often do not differentiate between the two types of hemorrhoids but state that they are "…suffering from hemorrhoids" or "…have hemorrhoids." "Having hemorrhoids" is a somewhat quizzical comment; everyone has hemorrhoids. Hemorrhoids are as normal a part of our common anatomy as are legs, arms, and heads. We are supposed to have hemorrhoids, and if we did not, we would lack the gasket-like effect they provide, occupying the space in the anal canal outside the sphincters. Thus hemorrhoidal tissue seems to prevent leakage. Wise surgeons who operate on hemorrhoids seldom attempt to eliminate them entirely, but selectively remove tissue that is abnormally enlarged, or is prolapsed or bleeding. A proper hemorrhoidectomy should always leave columns of healthy hemorrhoidal tissue behind.

The area of the anal verge is arguably the most sensitive area of the entire body when it comes to the sensation of pain. Surgery in this area can be excruciatingly painful. Attacks of thrombosis can be debilitating. Since all of us have hemorrhoids, we are all likely, at some time in our lives, to suffer from them, to a greater or lesser degree. Very often, hemorrhoids become symptomatic when one has constipation and subsequent straining. Blood can be

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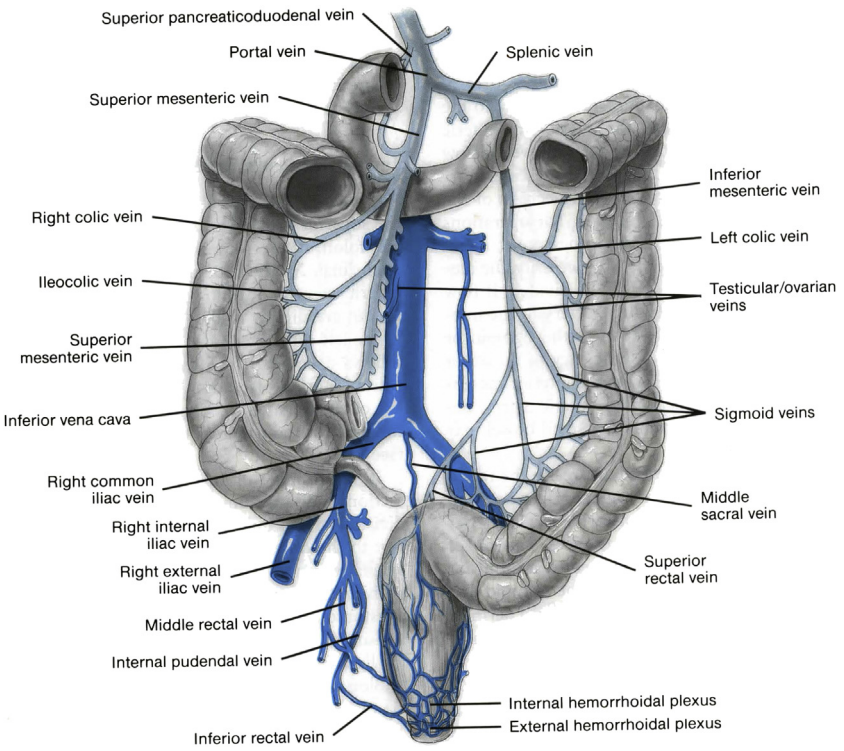

Fig 1. The venous drainage of the anus and rectum, demonstrating the systemic venous drainage of the lower anus and the portal venous drainage of the upper anus and rectum. Reused with permission from Gordon and Nivatvongs. Principles and Practice of Surgery for the Colon, Rectum, and Anus, 2nd edition. Quality Medical Publishing, Inc, St. Louis, Missouri, 1999, Figure 1-18, p. 30.

forced into external hemorrhoids and then trapped by a tightening of the anal sphincters, allowing stagnation and coagulation. Thrombosed external hemorrhoids are the result. With chronic straining, often associated with constipation, eventually internal hemorrhoids become larger and larger, and begin prolapsing. They can also thrombose, or begin bleeding, and cause staining on underwear if their mucosa is exposed by prolapse.

ANATOMY OF HEMORRHOIDS

Hemorrhoid tissue is composed of venules, arterioles, elastic and connective tissue, smooth muscle, skin, and mucosa. The hemorrhoid complex is a so-called "vascular cushion." Often, enlarged hemorrhoids are found in three constant sites, the right anterolateral, the right posterolateral, and the left lateral columns. Internal hemorrhoids are covered with mucosa, while external hemorrhoids are covered with anoderm, as they are distal to the dentate line. The venous drainage of the anal canal is important anatomically and can explain why patients who have severe cirrhosis and portal hypertension can have massive hemorrhage from enlarged upper anal canal varices, which can be mistaken for simple "hemorrhoids." The lower part of the anal canal drains through the inferior and middle rectal veins and internal pudendal veins, into the internal iliac veins, and hence into the inferior vena cava. The superior anal canal venous system is portal, since the superior rectal vein drains into the inferior mesenteric vein, and thus cirrhotic patients can definitely have anorectal varices that can bleed massively. One caveat to inexperienced general surgeons is to beware of these patients, who can present with large varices that can look like hemorrhoids. A "hemorrhoidectomy" in such a patient can be an exercise in controlling difficult bleeding[6] (Fig 1[7]).

Given that all of humankind has hemorrhoids, it is not unlikely that at times throughout history, these hemorrhoids can be symptomatic to the point of causing a true disability. When a leader of a nation can no longer function, or when a famous actor cannot act, or a sports figure cannot play — hemorrhoids of the famous become a part of history, or even the cause of history. This report will discuss the early historical mention of hemorrhoids and describe several historical figures that suffered from hemorrhoids and made history in the process.

INFLUENCE OF HEMORRHOIDAL DISEASE IN ANCIENT HISTORY

The Old Testament has several accounts of a condition called "emorods," which many believe to be an ancient form of the word "hemorrhoids." For instance, in Deuteronomy 28, we read the following: "The Lord will smite thee with the botch of Egypt, and with the emerods, and with the scab, and with the itch, whereof thou canst not be healed."[8] In 1st Samuel, we read that the Lord punished