



# Concepts of Hemorrhoids and Its Treatment in Avicenna's Canon of Medicine

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## Abstract

**Background:** In this text, the important points of Avicenna's Canon of Medicine on hemorrhoidal disease and its treatment have been introduced in light of colorectal surgery.

**Objectives:** The aim of this study is to briefly explain the hemorrhoidal disease and its treatment through different sections of Avicenna's Canon of Medicine. A unique feature of the Canon is careful and precise observations and description of the disorders and diseases. However, the recommended treatment differs from which that used today except in a few diseases.

**Methods:** The most detailed chapter regarding hemorrhoid in Canon of Avicenna, under the title of "Anal disease," shows rather precise knowledge about anal disease and their surgical treatments in the 11th century.

**Results and Discussion:** Avicenna explained in detail about anal diseases such as perianal abscess, fissure, rectal prolapse, and hemorrhoid in the 17th chapter of the 3rd volume of the Canon. Many herbs were used in anal disease by medieval physicians such as Avicenna had antioxidant and anti-inflammatory effects. Thus, the knowledge of ancient physician can help us in developing new therapeutic methods.

**Keywords:** Avicenna, Canon, Hemorrhoid, History of Medicine

## 1. Background

IbnSina, known as Avicenna in western world, was born in Bukhara 980 and died in Hamadan 1037. His talent and genius was known from childhood due to the fact that he memorized the Quran at the age of 10 and, with his strong memory, he surpassed his teachers at age 14. At the age of 16, there were some physicians working alongside him. When he was 18, he cured Noah II, the ruler of Samanids, and this made him more famous than before. He was considered among the most famous scientists of his era in such fields as Quran, medicine, physics, philosophy, mathematics, astronomy, geology, chemistry, literature, etc. (1, 2).

The medical subjects were based on individual experiences and the evidence was taken from the medical school of Greek. In fact what Galen did for Romans, Avicenna accomplished for the Muslims and Iranians (2).

He respected his pioneers in medicine greatly; when he transferred the words of physicians, who preceded him, he said: "Galen commands," "Paul commands," and, when he

talked about his ideas, he modestly said "I say." This is very important in showing the humility and respect of one who was known as the Prince of Physicians (3).

Canon is the masterpiece of Avicenna's medical books. His book may be considered the best one, which coordinates all medical doctrines of Hippocrates and Galen with the biological implications of Aristotle (4).

It was prepared in 5 large books and was written during 1020-1025 A.D. The original book is written in the Arabic language (due to the fact that Arabic was the formal language at that time). The book was the most effective text in medicine for about 6 centuries (5).

A unique feature of the Canon is careful and precise observations as well as description of the disorders and diseases. However, the recommended treatment differs from that used today except in a few diseases (6, 7).

## 2. Objectives

In all of the traditional Iranian medicine books and in Canon as well, hemorrhoid was termed as Bavisir. Its treat-

ment is controversial and surgeons should grade it. Most of the treatment is conservative for patients. In this study we want to know about its traditional treatment according to Canon.

### 3. Methods

Avicenna believed that learning anatomy is an important point in medical education and surgery. Therefore, several chapters in the 1st volume are devoted to human anatomy. Since cadaver dissection was forbidden under Islamic laws in that era, it is not clear whether he secretly performed cadaveric dissection or not; however, his writing in definition of human anatomy is interesting and novel (8). This kind of description was unique in the 11th century (5).

The chapters related to anal disease in the Canon of Medicine

The 17th chapter of the 3rd book of Canon is titled "anal disease" (9). In this chapter, Avicenna explained about different diseases of the anus such as fecal incontinence, pruritus ani, perianal abscess, fistula, rectal prolapse, fissure, and hemorrhoid (10).

### 4. Results and Discussion

At the beginning of the text, he emphasized that the physician should examine a patient very carefully and differentiates hemorrhoids from other intestinal diseases such as rectal ulcer (Ghorhe); otherwise, he would make a mistake. In the 2nd section of this chapter, IbnSina classifies hemorrhoid into 3 categories with regard to its shapes, color, and size. These categories are wart-shape, grape-like, and berry shape (9). Then, he explains the etiology of the hemorrhoid. According to the Galen idea; he said, "hemorrhoid doesn't appear unless the vessels of the anal canal are opened". He emphasized that prevalence of hemorrhoidal disease is high in warm areas of the southern parts (9).

Reviewing relevant sections and chapters of hemorrhoidal and perianal disorders in the Canon of Avicenna reminds us of a rich medical heritage in that era. Some of the concepts and treatment methods pertaining to hemorrhoidal disorders remain similar to the current modern knowledge. In each science, the history of evolution is based on ancient experiences and works. The presented remarkable examples of hemorrhoidal disorder in the Canon of Avicenna tells us that the history of general surgery in Iran dates back to at least a millennium (2).

Avicenna classifies hemorrhoids into external (Naetea) and internal (Ghaera) types, which implicate the contemporary classification as external and internal hemorrhoids according to the site of origin piles distal and proximal

to dentate line, respectively (11). As mentioned previously, IbnSina described external hemorrhoids as a wart shape (Soluli) (12), grape-like (Enabi), and berry shape (Tothi), with regard to its shapes, color, and size. In addition, the internal hemorrhoids are classified into non-hemorrhagic (Gheyre- Damiye) and hemorrhagic (Damiye). This classification is in contrast to today's classification of internal hemorrhoid with regards to the degree of protrusion and herniation from the anal canal as internal hemorrhoid grade I, II, III and V (11, 13).

Due to a high risk of surgery in the medieval era, physicians such as Avicenna focused more on conservative and medical treatment of hemorrhoids. At first, he recommended conservative management for treatment of hemorrhoidal disease. Avoidance of constipation and use of laxatives is the principle of medical therapy. For this purpose, he recommended herbs such as Guggal and Linseed (11). He emphasized that hard and dry stool aggravates the disease and increases the pain. These findings are the same as what we know today. If this therapy fails, then he recommends surgical intervention (11).

On technical details of the operation, IbnSina suggests 2 methods of drying or cutting of the piles. For drying of the piles, he recommended incisive and corrosive agents such as Orpiment (Zarnikh) and ammonia (Nushador). This may resemble the injection of sclerosing agents used for treating grade I and II of hemorrhoidal disease (14).

For operating the hemorrhoid, he noticed that if the hemorrhoidal tag is apparent, i.e. external type only cutting is enough, however, if the root of hemorrhoid is deep into the anal canal, the treatment is difficult. In this situation, he recommended ligation of the base of hemorrhoid with a silk thread or strong hair and left it until the pile dropped spontaneously. If the hemorrhoid didn't fall, then cutting was imperative (9). These approaches were similar to the current methods of Milligan and Morgan in treating external and combined external and internal hemorrhoids, i.e. for external hemorrhoids we only cut the hemorrhoidal tags and then hemostasis was done, while in the latter ligation of the base of hemorrhoids and cutting was done at the same time (15).

In accordance with Hypocrate, IbnSina suggested leaving at least 1 pack of hemorrhoids and cutting the remaining. In fact, he believed in not operating all the packs of hemorrhoids in 1 session and advised his patients to be patient and endure in the convalescence period (9). This method is completely the same as the current modern knowledge, which recommends no removal of all packs of hemorrhoids in one session due to the fear of anal stricture (15). In fact, on technical details of the surgery, Ibn Sina provided highly systematic knowledge on anorectal disease and its etiology and anatomy along with his expe-

riences, skills, and citations from the compilations of the Ancient physicians, Aegina, Paul, and Galen.

## 5. Conclusions

Although the recommended treatments in many chapters of Canon differ from those used today, the chapter on anorectal disease is similar to the current modern managements.

Despite the great progress in the current anorectal disease, Avicenna's concepts on classification and treatment of anorectal disease, especially hemorrhoids, have the same fundamental and basic principles with our modern knowledge. It could be concluded that Avicenna was the first medical scholar to address systematic management of hemorrhoids and other anal diseases.

Chapters in Canon on hemorrhoids present rather detailed knowledge concerning hemorrhoids and their conservative and surgical treatments in the 11th century and the medical template of that era. Avicenna provided highly systematic knowledge on anal diseases, especially hemorrhoids along with both his experiences and citations from the writings of the Ancient physicians, Hypocrate, Galen, and Paul. His Canon of medicine opened a new horizon to researchers and scientists to expand their knowledge, investigate in medical fields, and get familiar with systematic and novel methods of treatment.

Many herbs used for treatment of anal diseases by medieval physicians, such as Avicenna, had antioxidant and anti-inflammatory effects; therefore, the knowledge of ancient physician can help us develop new therapeutic methods. Can we substitute harmful chemical drugs nowadays used in different fields of medicine by harmless natural herbal drugs? Can surgery be substituted with traditional treatments? Is there any other idea about treatment of hemorrhoids traditionally?

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## Footnote

**Competing Interest:** None declared.

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