AMERICAN ACADEMIC PUBLISHER

INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

MODERN VIEWS ON PATHOMORPHOLOGICAL CHANGES IN HEMORRHOID DISEASE

Yusupov Bakhtiyor Lutfidin ugli

Assistant of the Department of Pathological Physiology and Pathological Anatomy of the Fergana Medical Institute of Public Health.

Abstract: Hemorrhoids are one of the most common chronic diseases in proctological practice, and the views on its pathomorphology have fundamentally changed in recent decades. Previously, this disease was interpreted as a simple varicose vein dilation, but now it is considered a complex degenerative-inflammatory disease of the anorectal cavernous structures, connective tissue, and musculo-ligamentous apparatus. This article analyzes modern pathomorphological aspects of hemorrhoids, microcirculatory disorders, inflammatory and degenerative processes, and their clinical significance.

Keywords: hemorrhoids, pathomorphology, cavernous structures, connective tissue, microcirculation, inflammation.

Input

Hemorrhoids are widespread among the working-age population and negatively affect the quality of life. According to various epidemiological data, at least 30-40% of the adult population has symptoms of hemorrhoids at a certain stage of life. Despite the widespread prevalence of the disease, views on its morphological essence have long been simplified.

Modern scientific research has shown the need to consider hemorrhoids not only as a venous pathology, but also as a complex process associated with the functional and morphological insufficiency of supporting structures in the anorectal area. In this regard, an in-depth study of the pathomorphological changes of the disease is important for a correct understanding of its pathogenesis and the choice of effective treatment methods.

Research objective

The purpose of this article is to systematize modern scientific views on pathomorphological changes in hemorrhoids, analyze the main morphological mechanisms, and highlight their clinical significance.

Materials and methods

In the process of preparing the article, modern concepts in the field of clinical and morphological studies, histological and immunohistochemical observations, and proctology of recent years were analyzed. Morphological changes were assessed in comparison with the normal anatomy of hemorrhoidal structures.

Results and discussion

Normal morphofunctional significance of hemorrhoidal structures

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

Hemorrhoidal nodes are a physiological component of the rectum. They consist of cavernous structures, including arteriovenous anastomoses, venous sinuses, connective tissue elements, and muscle fibers. These structures participate in ensuring the hermetic closure of the anal canal and play an important role in the function of stool retention.

Normally, hemorrhoidal structures are firmly held in their anatomical location by the ligamentous apparatus and muscle elements. Weakening of this system leads to the onset of a pathological process.

Degenerative changes of connective tissue

Modern morphological studies indicate that the degradation of connective tissue is one of the main factors in the pathogenesis of hemorrhoids. Changes in the quality and quantity of collagen fibers, the breakdown of elastic fibers reduce the mechanical strength of the ligaments supporting the nodes.

As a result, the hemorrhoidal nodes shift down from their physiological location, which leads to the development of prolapse. This process is especially pronounced in chronic forms of hemorrhoids.

Pathomorphological changes in the vascular system

In hemorrhoids, a number of changes are observed in the wall of the cavernous veins: thinning, loss of elasticity, and varicose expansion. As a result of increased activity of arteriovenous shunts, excess blood flows into the venous system.

This leads to venous stasis, blood stasis, and the development of tissue hypoxia. Hypoxia exacerbates metabolic disorders and activates inflammatory processes.

Microcirculatory disorders and inflammation

Disorders of microcirculation are an important link in the pathomorphology of hemorrhoids. Slowing of blood circulation and increased capillary permeability cause swelling and exudation. Histological analyses reveal infiltration of lymphocytes, macrophages, and neutrophils.

Activation of inflammatory mediators (cytokines, prostaglandins) is clinically manifested by pain, itching, and burning sensations**.**

Pathomorphological changes in acute haemorrhoids

Acute hemorrhoids are often characterized by the development of thrombosis in the hemorrhoidal nodes. Morphologically, intravascular coagulation, damage to the endothelium, and acute inflammation of the surrounding tissues are observed.

In some cases, signs of ischemia and necrosis may appear, which requires immediate medical attention.

Pathomorphology in chronic haemorrhoids

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

Morphological changes in chronic hemorrhoids are predominantly degenerative. Atrophy of connective tissue and muscle elements, enlargement of hemorrhoidal nodes, and persistent prolapse are observed. The inflammatory process becomes chronic, accompanied by periodic bleeding.

Modern pathogenetic concept

Currently, hemorrhoids are considered the result of the interaction of three main pathomorphological mechanisms:

1. Weakening of the connective tissue and supporting apparatus

2. Hemodynamic and microcirculatory disorders

3. Chronic inflammatory processes

This concept serves as a scientific basis for the development of modern minimally invasive treatment methods.

Conclusion

According to modern pathomorphological views, hemorrhoids are not only varicose veins, but also a complex degenerative-inflammatory disease of the vessels, connective tissue, and muscle elements of the anorectal area. A deep understanding of the morphological essence of the disease is important for early diagnosis, individual approach, and the choice of effective treatment tactics.

List of used literature

1. Corman M.L. Colon and Rectal Surgery. 6th ed. Philadelphia: Lippincott Williams & Wilkins; 2013.

2. Lohsiriwat V. Hemorrhoids: from basic pathophysiology to clinical management. World Journal of Gastroenterology. 2012;18(17):2009–2017.

3. Madoff R.D., Fleshman J.W. Clinical practice. Hemorrhoids. New England Journal of Medicine. 2004;371(10):944–951.

4. Sun Z., Migaly J. Review of hemorrhoid disease: presentation and management. Clinics in Colon and Rectal Surgery. 2016;29(1):22–29.

5. Riss S., Weiser F.A., Schwameis K., et al. The prevalence of hemorrhoids in adults. International Journal of Colorectal Disease. 2012;27(2):215–220.

6. Haas P.A., Fox T.A., Haas G.P. The pathogenesis of hemorrhoids. Diseases of the Colon & Rectum. 1984;27(7):442–450.

7. Thomson W.H.F. The nature of haemorrhoids. British Journal of Surgery. 1975;62(7):542–552.

8. Lunniss P.J., Mann C.V. Classification of hemorrhoidal disease. Surgical Clinics of North America. 2002;82(6):1153–1167.

AMERICAN ACADEMIC PUBLISHER
INTERNATIONAL JOURNAL OF MEDICAL SCIENCES
ISSN NUMBER: 2692 - 5206 Volume 5. No 12. December ,2025

9. Aigner F., Bodner G., Gruber H., et al. The vascular nature of hemorrhoids. Diseases of the Colon & Rectum. 2006;49(5):698–704.

10. Giordano P., Gravante G., Sorge R., et al. Long-term outcomes of hemorrhoidal disease. Colorectal Disease. 2009;11(7):712–716.

11. Parks A.G. The surgical treatment of hemorrhoids. British Journal of Surgery. 1956;43(180):337–351.

12. Sánchez C., Chinn B.T. Hemorrhoids. Clinics in Colon and Rectal Surgery. 2011;24(1):5–13.

13. Shafik A. Role of connective tissue changes in the pathogenesis of hemorrhoids. International Surgery. 1996;81(1):94–97.

14. Sneider E.B., Maykel J.A. Diagnosis and management of symptomatic hemorrhoids. Surgical Clinics of North America. 2010;90(1):17–32.

15. Abramowitz L., Batallan A. Epidemiology of hemorrhoidal disease. Journal of Visceral Surgery. 2012;149(1):e3–e8.

16. Ganz R.A. The evaluation and treatment of hemorrhoids. Clinical Gastroenterology and Hepatology. 2013;11(6):593–603.

17. Milligan E.T.C., Morgan C.N. Surgical anatomy of the anal canal. The Lancet. 1937;230(5959):1119–1124.

18. Lohsiriwat D., Lohsiriwat V. Hemorrhoids: a review of current treatment options. World Journal of Gastroenterology. 2015;21(31):9245–9252.

19. Ortiz H., Marzo J. Hemorrhoidal disease: pathophysiology and treatment. Annals of Gastroenterology. 2014;27(3):207–215.

20. Acheson A.G., Scholefield J.H. Management of hemorrhoids. BMJ. 2008;336(7640):380–383.