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Are Hemorrhoids Related to Diet and Dysentery?

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Funding: No specific funding was received for this work.

Potential competing interests: No potential competing interests to declare.

Abstract

This article explores non-surgical treatment options for hemorrhoid symptoms caused by dysentery. The study aims to assess the possibility of fully recovering from dysentery induced hemorrhoid symptoms. Grade III and IV prolapsed hemorrhoids can potentially be managed through dietary changes, such as incorporating pomegranate and reducing the use of chemical medications. Patients should also avoid certain foods during treatment. Clinical trials are needed to evaluate the effectiveness of this approach, including determining the optimal dosage and timing.

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Keywords: Hemorrhoids, Dysentery, Pomegranate, Metronidazole oral, zinc oxide suppository.

Introduction

A single gene on chromosome 9 controls the ABO blood group system, comprising three major alleles. Factors such as plasma levels, Von Willebrand factor (VWF) activity, and glycosyltransferase activity influence the relationship between ABO blood type and the risk of bleeding and thromboembolic disorders. Proper glycosylation is crucial for VWF's folding,

multimerization, and stability in circulation. Changes in glycosylation can impact VWF's ability to facilitate platelet adhesion and clot formation by altering its structure and function, potentially leading to an increased risk of bleeding or thromboembolic events. Variations in glycosyltransferase activity can also affect the expression of ABO antigens on red blood cells (RBCs), influencing susceptibility to certain diseases. Altered glycosylation patterns may impact pathogen attachment to RBCs, increasing the risk of infection. Understanding the roles of glycosylation in VWF and ABO antigens is vital for predicting and managing various health outcomes.

However, it has also been reported that the ABO blood group system influences certain aspects of platelet function. Blood group 0 has also been linked to an increased risk of bleeding in patients whose cause of bleeding is unknown, and it may also be a genetic risk factor for bleeding. These results imply that blood group 0 people would need to be closely watched for bleeding issues. To completely comprehend the effects of ABO blood group on platelet function and bleeding risk, more research is required.

Blood group O has been associated with reduced hemostatic power in cases of upper gastrointestinal bleeding and an increased risk of severe hemorrhages. The primary causes of bleeding in the upper gastrointestinal tract include cirrhosis-related gastroesophageal variceal hemorrhage, peptic ulcer disease, erosive conditions, and oral mucosal bleeding. Although there is some evidence suggesting a connection between ABO blood type and hemorrhoidal bleeding, particularly prevalent in individuals with blood group O and less common in those with blood groups B and AB, the understanding of this relationship remains incomplete. Further research is needed to fully comprehend the mechanisms underlying this potential association. Healthcare providers should consider the patient's ABO blood type when diagnosing and managing gastrointestinal bleeding, including hemorrhoids.

Materials and Methods

A review article was conducted in several well-known databases related to computer, surgery, diet, salted fish, and hemorrhoids. These keywords were used to find the basic aspects of this article. In total, 3,090,000 articles were found across all databases. A quick scan of the titles and summaries of each article was performed to highlight relevant technical details. As a result, these aspects have been clearly explained using a significant scientific method, which has positively contributed to the scientific content of this article. The relevant articles were sourced from the National Institute of Health (12), Semantic Scholar (4), Springer (4), Europe PMC (2), and bu.edu.eg (1).

Results and Discussion

Although symptoms of hemorrhoids can develop for various reasons such as chronic diarrhea or constipation, obesity, prolonged sitting, a low-fiber diet, recurrent pregnancy, and obesity, we propose that dysentery can be a dangerous factor that leads to the emergence of severe hemorrhoids symptoms within a short period of time. During the initial stages of a dysentery infection, the patient may experience a feeling of incomplete bowel emptying. If the diagnosis is delayed, symptoms can progress from pain during bowel movements to bleeding and the formation of clusters inside or around the

anus, resulting in the development of hemorrhoids. It appears that individuals residing in rural areas and those with a higher socioeconomic background are more likely to be affected by hemorrhoids. In general, four countries, namely Mexico, China, Egypt, and Australia, have a high prevalence of dysentery and hemorrhoids (Fig. 1).

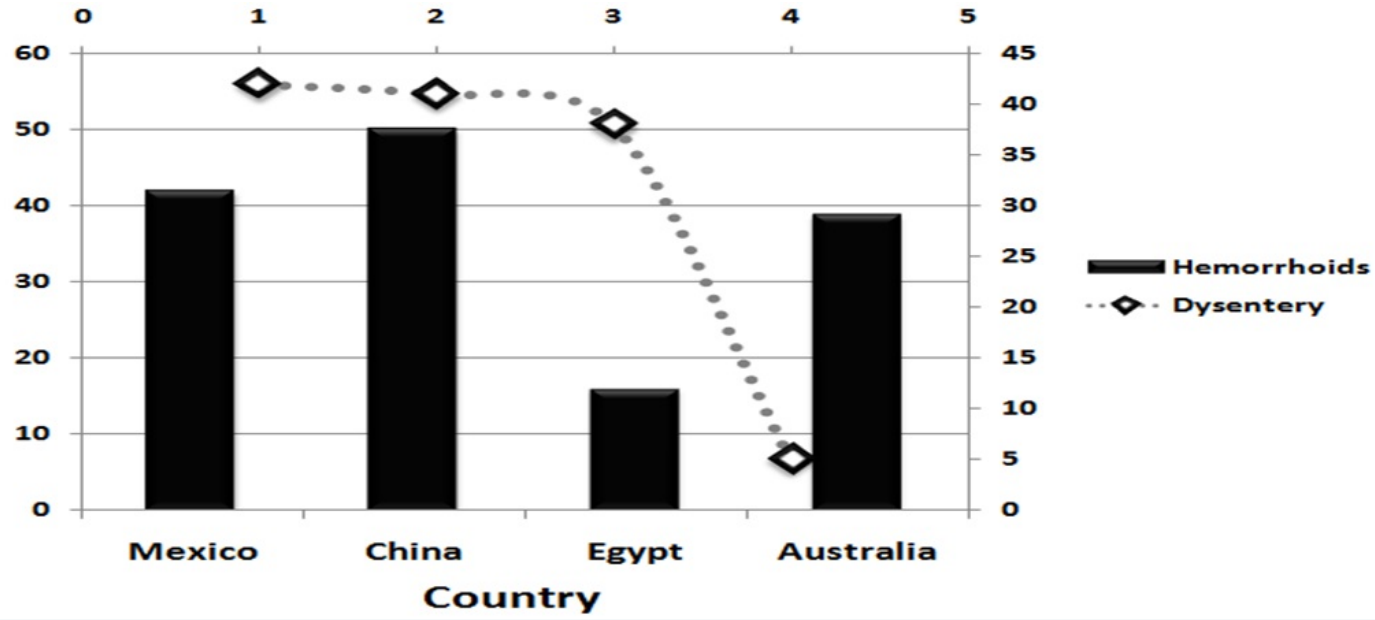

Fig. 1. Simple schematic showing the prevalence of dysentery and hemorrhoids in various countries

Source: Correa-Rovelo *et al*. (2002), Shirley *et al*. (2018), Huang *et al*. (2021), Kibret *et al*. (2021)

The high proportion of hemorrhoids in Australia may be attributed to immigrants from certain developing countries, men engaging in sexual activity with other men, or infection from an infected person. This suggests that most hemorrhoid symptoms are not associated with dysentery. In contrast, the high prevalence of dysentery and hemorrhoids in China is likely caused by men engaging in sexual activity with other men, unhealthy behavior in certain rural areas (such as poor sanitation), food contamination, or infection from an infected person. This indicates that most hemorrhoid symptoms can be linked to dysentery infection. As for Egypt, the high proportion of dysentery is probably due to unhealthy behavior in certain rural regions (such as poor sanitation), food contamination, or infection from an infected person. This suggests that dysentery significantly contributes to hemorrhoid symptoms. In the case of Mexico, the high prevalence of dysentery and hemorrhoids is probably caused by unhealthy behavior in certain rural regions (such as poor sanitation), or infection from an infected person. This indicates that hemorrhoid symptoms are associated with dysentery.

The following figure shows four symptoms of hemorrhoids, and one of them can occur in different positions: anterior (the 12 o'clock position), posterior (the 6 o'clock position), left lateral (the 9 o'clock position), or right lateral (the 3 o'clock position"). Dysentery can infect the intestines and lead to diarrhea that contains blood or mucus. This is likely caused by food contamination with germs or parasites. There are two types of dysentery bacillary dysentery and amoebic dysentery. If dysentery continues for a long period, it can result in severe dehydration due to diarrhea mixed with blood. As the disease progresses, you will experience severe abdominal pain.

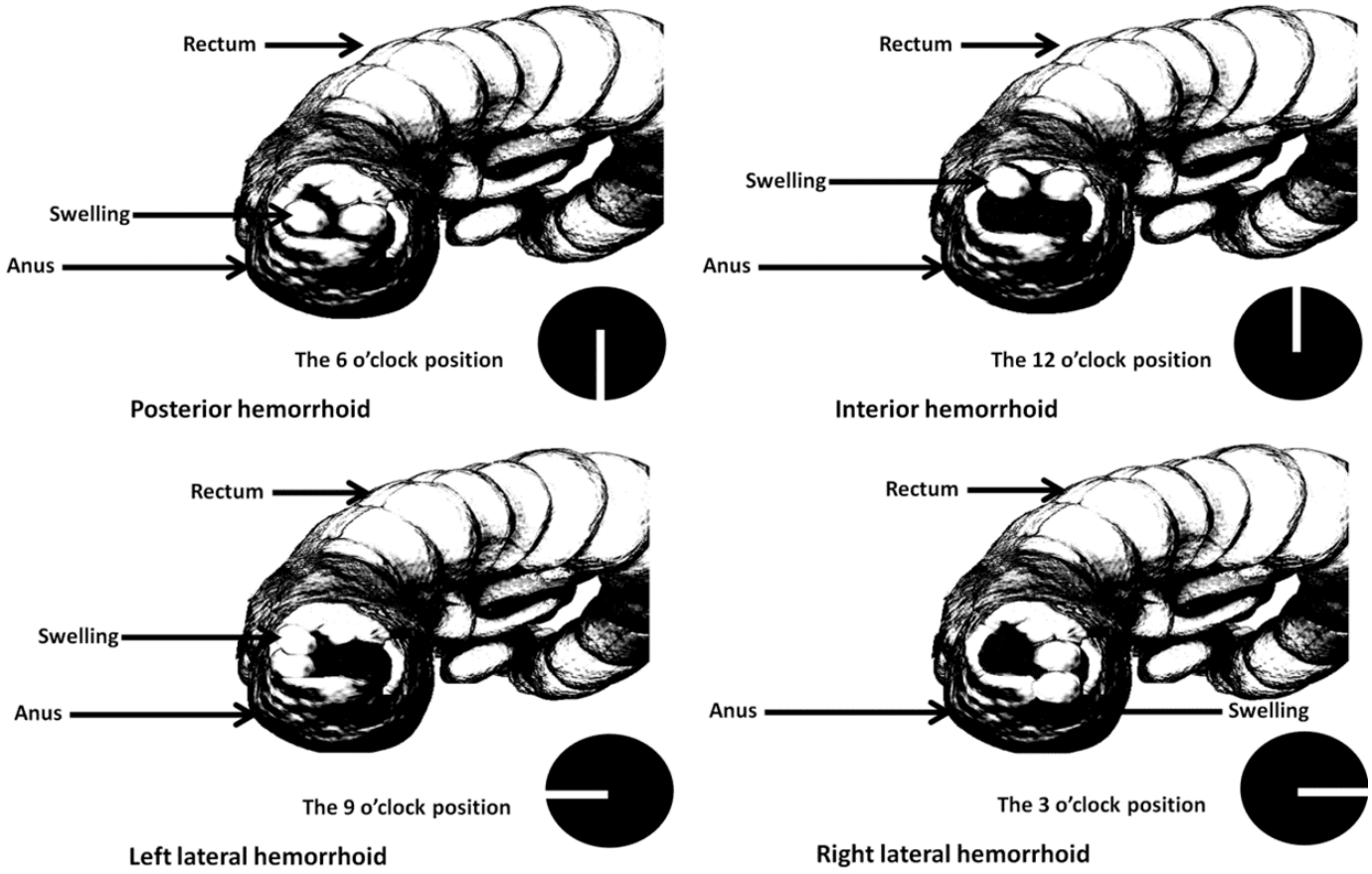

Fig. 2. A concise schematic displaying four common symptoms of hemorrhoids in a single position

Accordingly, prolapse can occur when the supportive anal ligament (Treitz's muscle) is disrupted in this area. Therefore, metronidazole can impact the growth of various parasites and bacteria, making it useful for pain relief after haemorrhoidectomy **(Sammour *et al.*, 2017)**. Although no clinical trials have been conducted on a single technique for treating all symptoms resulting from hemorrhoids, our suggested approaches may offer an easy and effective solution for most of these symptoms without the need for surgery. These approaches involve following a specific diet for period of 5-40 days, along with drug treatment based on the severity of the symptoms. Pomegranate is known for its high content of polyphenols such as punicalagin, punicalin A and B **(Wang *et al.*, 2004; Santiago *et al.*, 2014; Vučić *et al.*, 2019)**. These compounds possess antioxidant, anti-hypertensive, anti-hyperlipidemic, and anti-inflammatory properties **(Eghbaliferiz and Iranshahi, 2016)**. According to **Rickards *et al.* (2021),** polyphenols can effectively aid in the recovery of overworked or relaxed muscles in the human body.

- **The proposed approach to treat Grades I and II of hemorrhoids symptoms within a period of 5 to 15 days**

If you have mild or moderate symptoms of hemorrhoids (Grade I or II), it is recommended that you take two tablespoons of olive oil before breakfast daily until the symptoms disappear, which typically takes 5 to 15 days. In the morning and at night, consume one cup (about 75 ml) of boiling pomegranate with its peel (dried or fresh) each day. Additionally, drink plenty of water and fluids to ensure clear-to-light yellow urine every 3 to 4 hours. For breakfast, have an apple or a banana followed by one cup of yogurt with a boiled egg. You can also enjoy one cup of fresh pomegranate seeds and one

piece of toast. During lunch, it is beneficial to include a dish of smoked herring or salted raw fish with a variety of vegetables. Salted foods have a negative effect on the growth of parasites and bacteria. It appears that a decrease in chloride levels in the blood can cause the muscles surrounding the anus to relax and protrude. For lunch, consider having a dish of salmon with three tablespoons of salad. Alternatively, you can have a dish of chicken soup with three tablespoons of carrot salad. Another, option is a dish of seafood soup with three tablespoons of salad. Soups are known to be easily digested. For dinner, it is recommended to consume chicken or rabbit with a generous portion of vegetables daily until the hemorrhoids symptoms have resolved. If you prefer, you can substitute beans with a salad consisting of cucumber, carrot, and broccoli. Before bed, have one cup of yogurt with an apple. This diet is expected to alleviate symptoms of Grade I or II hemorrhoids, and surgery may not be necessary after approximately 5 to 15 days.

- **The proposed approach to treat Grades III and IV of hemorrhoids symptoms within a period of 25 to 40 days**

When suffering from Grade III or IV hemorrhoids (Fig. 3), patients should follow the same diet as mentioned for Grade I or II, along with additional treatment instructions and directions. It is important to avoid sitting on the toilet for extended periods of time. Using warm sitz baths after defecation can help alleviate pain.

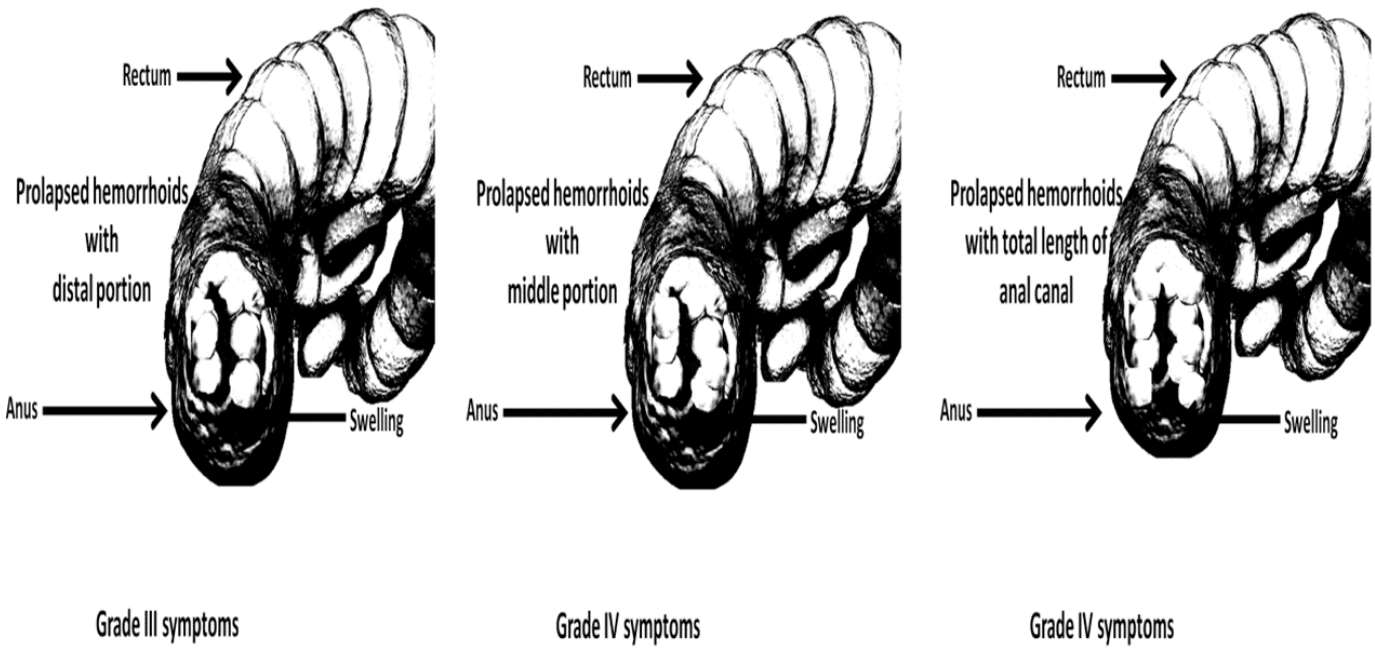

Fig. 3. A simple schematic depicting the grade III and IV symptoms of hemorrhoids

The best way to clean the anus after defecating is to gently pat it with moist toilet paper and olive oil. Eating high-fiber foods and staying hydrated are preferable. The thrombosed hemorrhoid is often excruciatingly painful. As a result, for a brief period, you may take analgesics like Anadin or Paracetamol twice daily (but no more than once per week). You should take three tablespoons of olive oil with an apple every day before breakfast and dinner during the first week. You can take two teaspoons of olive oil every day before breakfast and dinner during the second week. A chemical medication like metronidazole should also be taken orally twice a day (every 12 hours) for five days, and then once a day for an

additional five days. That's why, when the thrombosed hemorrhoid pops during this time, you'll experience immediate relief from the symptoms of hemorrhoids. Zinc oxide rectal suppositories can be used to alleviate burning, irritation, and itching when the pain doesn't go away. Additionally, increasing fiber intake and staying hydrated can help prevent constipation, which can worsen hemorrhoid symptoms. It's important to consult with a healthcare provider before starting any new treatment regimen for hemorrhoids. Every twelve hours, following a bowel movement, we advise using a zinc oxide-containing suppository that is put into the rectum. Not only may hemorrhoids be used to cure infections, but they can also cause hemorrhoids to re-emerge. To prevent this, apply a thin layer of olive oil to your skin right before using zinc oxide suppositories. Your hemorrhoids may push back in for a brief period of time, causing tingling pain. At this point, there can be a small amount of bleeding visible. This does not mean that the prolapsed component will not rise again; rather, it means that the wet tissue is starting to dry out. Given that hemorrhoids can be pushed back without surgery after approximately 25 to 40 days, it is anticipated that this diet and the use of chemical medications will be able to alleviate the symptoms of hemorrhoids of Grade III or even IV.

- **The proposed cautions for patients in the therapy stage**

It is recommended that patients consider the following safety measures: Whenever you use the restroom, you should carefully wash your hands with soap and water or a disinfectant during the therapy phase. Together with them, you should stay away from processed and quick meals, dishes cooked in butter or ghee, nuts, chocolate, onions, garlic, tomatoes, sauces, mustards, and spices like cumin, ground black pepper, and chile. In the event that you have the disease, you should consume fewer pastes. Also, at this crucial phase, stay away from milk products, coffee, and alcohol. During the therapy stage, it is important to prioritize your health by avoiding certain foods that may worsen your condition. Additionally, staying hydrated and getting enough rest can also aid in the healing process. You need to purchase smoked herring or salted sardines from a reputable vendor. When incorrect hygienic precautions are taken during the salting process, fish might become infected with several kinds of bacteria **(Edris *et al.*, 2014)**. If you use disulfiram (Antabuse) or consume alcohol, you shouldn't start metronidazole until two weeks have elapsed. You should refrain from consuming alcohol, foods that contain propylene glycol (such as salad dressings, soft drinks, flavored teas, cakes, ice cream, and muffins), and medications (such as cyclobenzaprine hydrochloride 10 mg, acetaminophen extended-release 650 mg, acetaminophen 500 mg, and cetirizine hydrochloride 10 mg) for at least three days after stopping metronidazole. It is important to follow these guidelines to avoid a disulfiram-like reaction, which can cause symptoms such as nausea, vomiting, headaches, and flushing. Many packaged meals, dairy products, and dressings include the artificial food ingredient propylene glycol **(McGowan *et al.*, 2018)**. In all commercial brands of ice cream, it serves as a type of antifreeze. In your body, it decomposes after roughly two days. You should cease taking metronidazole right away if you experience any of the following symptoms: tingling, headaches, visual changes, weakness, seizures, or numbness. Use the zinc oxide suppository exactly as prescribed by your doctor, and don't use it for longer than necessary. If, after a week, the hemorrhoidal symptoms do not get better, you should see your physician right away. Analgesics containing hydrocortisone should not be used for longer than a week if you are unable to see your doctor within that week.

Conclusion

It can be concluded that mild to moderate hemorrhoid symptoms caused by dysentery can be treated with pomegranate, olive oil, and sodium chloride. However, severe symptoms require oral metronidazole and a zinc oxide suppository with olive oil, along with a suitable diet. Clinical trials are needed to confirm the effectiveness of this treatment and to minimize potential side effects.

References

- Aigner F., Gruber H., Conrad F., Eder J., Wedel T., Zelger B., Engelhardt V., Lametschwandtner A., Wienert V., Böhler U., Margreiter R. and Fritsch H. 2009. Revised morphology and hemodynamics of the anorectal vascular plexus: impact on the course of hemorrhoidal disease. Int. J. Colorectal Dis., 24: 105 – 113.
- Chung Y.C., Hou Y.C. and Pan A.C. 2004. Endoglin (CD105) expression in the development of haemorrhoids. Eur. J. Clin. Invest., 34:107–112.
- Correa-Rovelo J.M., Tellez O., Obregón L. et al. 2002. Stapled Rectal Mucosectomy vs. Closed Hemorrhoidectomy. Dis Colon Rectum 45: 1367–1376 (2002). https://doi.org/10.1007/s10350-004-6426-3.
- Dan L.F. and Martínez E.G. 2007. Amoebic dysentery. BMJ Clin. Evid., Jan 1:0918. PMID: 19454043; PMCID: PMC2943803.
- Davis B.R., Lee-Kong S.A., Migaly J., Feingold D.L. and Steele SR. 2018. The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the management of hemorrhoids. Dis. Colon Rectum., 61:284–292.
- Edris, A.A., Amin R.A., Naseif M.Z. and AbdelFatah E.M. 2014. Evaluation of retiled salted fish according to Egyptian standard. Benha Veterinary Medical J. 27 (2): 168 – 176.
- Eghbaliferiz S. and Iranshahi M. 2016. Prooxidant activity of polyphenols, flavonoids, anthocyanins and carotenoids: updated review of mechanisms and catalyzing metals. Phytotherapy Res., 30(9): 1379–1391. doi: 10.1002/ptr.5643.
- Huang H., Gu Y., Ji L., Li Y., Xu S., Guo T. and Xu M. 2021. A new mixed surgical treatment for grades III and IV hemorrhoids: Modified selective hemorrhoidectomy combined with complete anal epithelial retention. Arq Bras Cir Dig., 2021 Oct 15;34(2):e1594.
- Huang H.X., Yao Y.B. and Tang Y. 2016. Application of tying, binding and fixing operation' in surgical treatment of severe mixed hemorrhoids. Exp Ther Med. 12(2): 1022 – 1028. doi: 10.3892/etm.2016.3339. Epub 2016 May 12. PMID: 27446315; PMCID: PMC4950541.
- Kibret A.A., Oumer M. and Moges A.M. 2021. Prevalence and associated factors of hemorrhoids among adult patients visiting the surgical outpatient department in the University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia. PLoS One, 2021 Apr 20;16(4):e0249736.
- Kunitake H. and Poylin V. 2016. Complications Following Anorectal Surgery. Clin. Colon Rectal Surg., 29(1): 14 – 21. doi: 10.1055/s-0035-1568145. PMID: 26929747; PMCID: PMC4755765.
- McGowan M.A., Scheman A. and Jacob S.E. 2018. Propylene Glycol in Contact Dermatitis: A Systematic Review. Dermatitis, 29(1): 6 – 12. doi: 10.1097/DER.0000000000000307. PMID: 29064881.

- Mohammad S.M. and Kashani H.H. 2012. Chemical composition of the plant*Punica granatum* L. (pomegranate) and its effect on heart and cancer. J. Medicinal Plants Res., 6: 5306–5310.
- Morgado P.J., Suárez J.A., Gómez L.G. and Morgado P.J. 1988. Histoclinical basis for a new classification of hemorrhoidal disease. Dis. Colon Rectum, 31:474–480.
- Nisar P.J., Acheson A.G., Neal K.R. and Scholefield JH. 2004. Stapled hemorrhoidopexy compared with conventional hemorrhoidectomy: systematic review of randomized, controlled trials. Dis. Colon Rectum, 47(11): 1837–1845.
- Rickards L., Lynn A., Harrop D., Barker M.E., Russell M. and Ranchordas M.K. 2021. Effect of Polyphenol-Rich Foods, Juices, and Concentrates on Recovery from Exercise Induced Muscle Damage: A Systematic Review and Meta-Analysis. Nutrients, Aug 27; 13(9): 2988. doi: 10.3390/nu13092988. PMID: 34578866; PMCID: PMC8465563.
- Sammour T., Barazanchi A.W. and Hill A.G. 2017. Evidence-based management of pain after excisional haemorrhoidectomy surgery: a PROSPECT review update. World J. Surg., 41:603–614.
- Santiago M.C.P.d.A., Gouvêa A.C.M.S., Godoy R.L.d.O., et al. 2014. Analytical standards production for the analysis of pomegranate anthocyanins by HPLC. Brazilian J. Food Technology, 17(1): 51–57. doi: 10.1590/bjft.2014.008.
- Shirley D.T., Farr L., Watanabe K. and Moonah S. 2018. A Review of the global burden, new diagnostics, and current therapeutics for amebiasis. Open Forum Infect Dis., 2018 Jul 5;5(7):ofy161.
- Thomson W.H. 1975. The nature and cause of haemorrhoids. Proc. R. Soc. Med., 68:574–575.
- Vučić V., Grabež M., Trchounian A. and Arsić A. 2019. Composition and potential health benefits of pomegranate: a review. Current Pharmaceutical Design, 25: 1817–1827. doi: 10.2174/1381612825666190708183941.
- Wang R.F., Xie W.D., Zhang Z., Xing D.M., Ding Y., Wang W., Ma C. and Du L.J. 2004. Bioactive compounds from the seeds of *Punica granatum* (pomegranate). J. Natural Products, 67(12): 2096–2098. doi: 10.1021/np0498051.