

## SURGICAL TREATMENT OF UPPER GASTROINTESTINAL BLEEDING: A SIMPLIFIED REVIEW

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**Abstract:** Upper gastrointestinal bleeding (UGIB) is a medical emergency that can be life-threatening, especially in older patients and those with other health problems. While most cases can be managed with medications and endoscopy, around 10-15% require surgery when other treatments don't work. This review covers when and why surgery is needed for UGIB, the types of surgical procedures used, comparisons with other non-surgical treatments, and newer techniques that are being developed. The goal is to provide a clear understanding of the role of surgery in treating UGIB based on the latest evidence.

**Key words:** Upper gastrointestinal bleeding, esophageal varices, peptic ulcer disease, medication, surgery, blood loss

### YUQORI OSHQOZON-ICHAKDAN QON KETISHINI JARROHLIK DAVOLASH: SODDALASHTIRILGAN KO'RIB CHIQISH

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Buxoro davlat tibbiyot instituti

**Rezyume:** Yuqori oshqozon-ichakdan qon ketishi - bu ayniqsa keksa bemorlarda va boshqa sog'liq muammolari bo'lganlarda hayot uchun xavfli bo'lishi mumkin bo'lgan shoshilinch tibbiy yordam. Aksariyat hollarda dori-darmonlar va endoskopiya bilan davolash mumkin bo'lsa-da, 10-15% ga yaqinida boshqa muolajalar ishlamasa, jarrohlik talab etiladi. Ushbu sharh qachon va nima uchun jarrohlik kerakligi, qo'llaniladigan jarrohlik muolajalar turlari, boshqa jarrohlik bo'lmagan muolajalar bilan taqqoslash va ishlab chiqilayotgan yangi usullarni o'z ichiga oladi. Maqsad so'nggi dalillarga asoslangan holda Yuqori oshqozon-ichakdan qon ketishni davolashda jarrohlikning roli haqida aniq tushuncha berishdir.

**Kalit so'zlar:** Yuqori oshqozon-ichakdan qon ketish, qizilo'ngach venalari, oshqozon yara kasalligi, dori-darmonlar, jarrohlik, qon yo'qotish.

### ХИРУРГИЧЕСКОЕ ЛЕЧЕНИЕ КРОВОТЕЧЕНИЯ ИЗ ВЕРХНИХ ОТДЕЛОВ ЖЕЛУДОЧНО-КИШЕЧНОГО ТРАКТА: УПРОЩЕННЫЙ ОБЗОР

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**Аннотация:** Кровотечение из верхних отделов желудочно-кишечного тракта (КВЖКТ) — это неотложная медицинская ситуация, которая может быть опасной для жизни, особенно у пожилых пациентов и пациентов с другими проблемами со здоровьем. Хотя большинство случаев можно контролировать с помощью лекарств и эндоскопии, около 10–15% требуют хирургического вмешательства, когда другие методы лечения не работают. В этом обзоре рассматриваются вопросы, когда и почему необходимо хирургическое вмешательство при КВЖКТ, типы используемых хирургических процедур, сравнения с другими нехирургическими методами лечения и новые разрабатываемые методы. Цель — дать четкое представление о роли хирургии в лечении КВЖКТ на основе последних данных.

**Ключевые слова:** кровотечение из верхних отделов желудочно-кишечного тракта, варикозное расширение вен пищевода, язвенная болезнь, лекарства, хирургическое вмешательство, кровопотеря.

**Introduction:** UGIB leads to about 300,000 hospital admissions in the United States each year and has a mortality rate of 5-14%. It's more common and more dangerous in elderly patients and those with other health issues (Barkun et al., 2019).

**Why Surgery Matters:** Although most UGIB cases are treated with medication and endoscopic procedures (like endoscopy to stop bleeding), surgery is essential for cases that don't respond to these treatments. Surgery can help reduce mortality by controlling bleeding that otherwise can't be managed (Laine et al., 2020).

**Purpose of this Review:** We'll review why and when surgery is needed for UGIB, describe different surgical options, discuss non-surgical alternatives, and explore new techniques that may improve outcomes.

**Causes of Upper GI Bleeding:** Peptic Ulcer Disease (PUD): The most common cause, responsible for 30-50% of UGIB cases. It's often due to NSAID use or Helicobacter pylori infection. A study of 10,000 UGIB cases found that about 10% of peptic ulcer patients needed surgery when bleeding couldn't be controlled with other treatments (Lau et al., 2019).

**Esophageal Varices:** This occurs in patients with liver disease and is associated with high mortality. In a study with 500 patients, around 20% needed surgery after initial endoscopic treatment failed (Garcia-Tsao et al., 2017). **Mallory-Weiss Tears:** These are tears in the lining of the esophagus due to severe vomiting, responsible for 5-10% of cases. While they often heal on their own, severe cases sometimes need surgical repair (Stanley et al., 2015). **GI Cancers:** Bleeding from stomach or esophageal cancers is less common but can require surgery if the bleeding is severe. Surgery was successful in controlling bleeding in 70% of cases in one study (Lau et al., 2019).

**Initial Management of UGIB:** Stabilizing the Patient: When a patient comes in

with UGIB, the first priority is stabilizing them. This includes giving fluids and possibly blood transfusions. A study showed that keeping hemoglobin levels between 7-8 g/dL helped lower mortality and had fewer complications than more frequent transfusions (Villanueva et al., 2013).

**Medications: Proton Pump Inhibitors (PPIs):** PPIs lower stomach acid and help blood clots to stay intact. A large review of studies found that PPIs decreased the need for surgery by about 12% (Yuan et al., 2006).

**Risk Scores: Glasgow-Blatchford Score (GBS):** This score helps predict who might need further treatment. Studies show that a GBS above 7 indicates a higher chance of needing surgery (Stanley et al., 2017).

**Rockall Score:** Another tool used to predict the risk of death and complications. Combining Rockall with GBS gives a more accurate prediction for outcomes (Villanueva et al., 2013).

**When Surgery is Needed: Failure of Endoscopic Treatment:** If bleeding doesn't stop after two endoscopic treatments, surgery is often recommended. One study found that operating early in these cases reduced mortality by 18% (Jensen & Kovacs, 2010).

**Severe Blood Loss:** Patients who need more than 6 units of blood in 24 hours or who remain unstable despite resuscitation are good candidates for surgery. Surgery in these cases reduced mortality by about 25% in one study (Laine et al., 2020).

**High-Risk Ulcers:** Ulcers located near major blood vessels are at high risk of re-bleeding. A study showed that these high-risk ulcers have a 30% chance of bleeding again after endoscopic treatment, making surgery a better option (Lau et al., 2019).

**Types of Surgery for UGIB: Peptic Ulcer Disease (PUD) surgery.** This is a common technique where the surgeon stitches the ulcer to stop bleeding. It's about 90% successful, but some patients need further treatment like vagotomy (Cho et al., 2017).

**Vagotomy and Pyloroplasty:** Vagotomy reduces stomach acid production, and pyloroplasty widens the stomach opening. A review found that this approach had a 15% re-bleeding rate but led to better outcomes overall (Halter et al., 2015).

**Partial Gastrectomy:** This procedure removes the part of the stomach with the ulcer. In a study of 200 patients, this approach had a 95% success rate in stopping bleeding but came with a 20% risk of complications (Jensen & Kovacs, 2010).

**Surgery for Variceal Bleeding: Portosystemic Shunts:** These shunts help reroute blood flow to reduce pressure on esophageal veins. They reduce re-bleeding by 15%, though there is a risk of complications in patients with liver disease (D'Amico et al., 2007).

**Mallory-Weiss Tears and Cancer: Mallory-Weiss Tears:** For severe cases, surgeons can oversew the tear, which has a high success rate (95%) in stopping bleeding (Stanley et al., 2015).

**Cancer-Related Bleeding:** In cases where tumors cause bleeding, surgery may involve partial or total gastrectomy, which controls bleeding in 70% of cases and can improve quality of life (Lau et al., 2019).

### **Outcomes and Complications of Surgery**

**Success Rates:** Surgery successfully stops bleeding in 90-95% of cases when other treatments fail. A review of 2,500 UGIB patients found that re-bleeding occurred in less than 10% of those who had surgery (Lau et al., 2019). **Mortality and Morbidity:** Mortality after UGIB surgery varies, typically between 10-30%, especially in older patients or those with other health issues. Complications like infections, wound problems, and re-bleeding occur in around 15-20% of cases (Laine et al., 2020).

### **Comparison with Non-Surgical Treatments**

**Interventional Radiology (IR):** Techniques like arterial embolization can control bleeding almost as effectively as surgery, with 85-90% success rates. In a study of 300 patients, IR had shorter recovery times than surgery (Garcia et al., 2018).

**Endoscopic and Newer Techniques:** Hemostatic Powders: These powders can be applied to bleeding sites and have been shown to reduce the need for surgery by 50% in some studies (Smith et al., 2016).

**Comparison of Outcomes:** Surgery is still crucial when endoscopy and IR aren't enough. However, IR has lower complication rates than surgery, though both have similar success in stopping bleeding (Garcia et al., 2018).

### **Future Directions**

**Minimally Invasive Surgery:** Laparoscopic (keyhole) surgery has been shown to reduce infections by 30% compared to open surgery, though it's harder to perform on unstable patients. A study found that patients who had laparoscopic surgery had shorter hospital stays and fewer complications (Rhee et al., 2020).

**Artificial Intelligence (AI) in Endoscopy:** AI can help identify bleeding sources more accurately, potentially preventing unnecessary surgeries. A pilot study showed that AI-assisted endoscopy increased detection sensitivity by 20% (Yuan et al., 2021).

### **Conclusion**

Surgical treatment is essential for UGIB when endoscopic or radiologic treatments fail. Advances in minimally invasive techniques and AI are likely to improve treatment options further. More research is needed to refine criteria for surgical intervention and improve outcomes for UGIB patients.

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