

# Transarterial embolization is a safe, nonoperative option for acute peptic ulcer bleeding

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Researchers from China report that in patients with peptic ulcer bleeding in whom endoscopy failed to control the bleeding, transarterial embolization is a safe procedure which reduces the need for surgery without increasing overall mortality and is associated with few complications. The study appears in the May issue of *GIE: Gastrointestinal Endoscopy*, the monthly peer-reviewed scientific journal of the American Society for Gastrointestinal Endoscopy (ASGE).

A peptic ulcer is an erosion in the lining of the stomach or the first part of the small intestine, called the duodenum. Normally, the lining of the stomach and small intestines are protected against the irritating acids produced in the stomach. If this protective lining stops working correctly, and the lining breaks down, it may result in inflammation (gastritis) or an ulcer. Small ulcers may not cause any symptoms. Some ulcers can cause serious bleeding.

Despite improvements in medical and endoscopic therapies for ulcers, bleeding may continue or recur in 13 percent of [patients](#) after endoscopic treatment for their bleeding peptic ulcers. Continued bleeding after initial treatment often leads to a need for surgery, but the surgery is associated with a high morbidity rate (55 percent) and a high mortality rate (30 percent). Transarterial embolization (TAE) has been proposed as an alternative to this type of surgery. Angiography with TAE provides a nonoperative option for patients whose acute peptic

ulcer bleeding has not been controlled by endoscopy. Embolization is a treatment that clogs small blood vessels and blocks the flow of blood, and agents used for this purpose include Gelfoam, polyvinyl alcohol, cyanoacrylic glues, and coils. Primary technical success rates range between 52 percent and 98 percent, with recurrent bleeding requiring repeated embolization procedures in approximately 10 percent to 20 percent of patients.

"In our study, we set out to compare the outcomes of transarterial embolization and salvage surgery for patients with peptic ulcers in whom endoscopic hemostasis failed," said study lead author Tiffany Cho-Lam Wong, The Institute of Digestive Disease, The Chinese University Hong Kong. "We found TAE is a safe procedure with a high technical success rate. In those with gastroduodenal ulcer bleeding in whom endoscopic hemostasis failed, TAE reduces the need for surgery and the overall complications, and accomplishes this without increasing the overall mortality."

## **Methods**

This was a retrospective study of patients admitted to the Prince of Wales Hospital at the Chinese University of Hong Kong. Data were retrieved from a prospectively-collected GI bleeding registry.

Consecutive patients admitted with overt signs of upper GI bleeding received endoscopy within 24 hours after admission. Patients were under the joint care of surgeons and gastroenterologists. "Salvage" intervention (either surgery or TAE) was deemed to be warranted if active bleeding could not be controlled by endoscopic means or if a patient had a second rebleeding episode. The main outcomes measurements were all-cause mortality, rebleeding, reintervention, and complication rate.

## **Results**

Thirty-two patients underwent TAE and 56 underwent surgery. In those who underwent TAE, the bleeding vessels were the gastroduodenal artery (25 patients), left gastric artery (4 patients), right gastric artery (2 patients), and splenic artery (1 patient). Active extravasation (blood flowing from a vessel into surrounding tissue) was seen in 15 patients (46.9 percent). Embolization was attempted in 26 patients, and angiographic coiling was successful in 23 patients (88.5 percent). Bleeding recurred in 11 patients (34.4 percent) in the TAE group and in 7 patients (12.5 percent) in the surgery group. More complications were observed in patients who underwent surgery (40.6 percent vs. 67.9 percent). There was no difference in 30-day mortality (25 percent vs. 30.4 percent), mean length of hospital stay (17.3 vs. 21.6 days), and need for transfusion (15.6 vs. 14.2 units) between the TAE and surgery groups.

The researchers noted that their cohort of patients represented the highest risk group. The mean age of patients was 73.1 years and 71.1 years in TAE and surgery groups, respectively, and 87.5 percent of the patients had more than one comorbidity.

In conclusion, the researchers stated that their study findings led them to reassess the role of surgery and current management algorithms for peptic ulcer bleeding. TAE should be considered, if not before, then at least as an alternative to [surgery](#) in patients with peptic ulcer bleeding in whom primary endoscopic hemostasis fails or in those who developed a second rebleeding episode.

"Despite the retrospective, observational design of this study, Wong et al provide important, clinically relevant data that advance our knowledge of how we should be caring for patients with [peptic ulcer](#) bleeding," said Ian M. Gralnek, MD, MSHS, FASGE, Rappaport Family Faculty of Medicine, Technion-Israel Institute of Technology, Department of Gastroenterology, Rambam Health Care Campus,

Haifa, Israel, in an accompanying editorial.

Provided by American Society for Gastrointestinal Endoscopy

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