

## Gastroduodenal artery pseudoaneurysm rupture after endoscopic hemostasis for duodenal ulcer bleeding

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**Introduction:** Although aneurysm or pseudoaneurysm of the gastroduodenal artery is rare, but it is very lethal with a mortality rate of about 70% in case of aneurysm rupture. We report a case with fatal gastroduodenal artery pseudoaneurysm rupture after successful endoscopic hemostasis for duodenal ulcer bleeding.

**Case presentation:** A 62-year-old male was found collapsed with hematemesis at home and was admitted to the emergency room. Initial blood pressure was 80/60 mmHg, pulse rate was 84 /min, respiration rate was 20 /min, and body temperature was 35.3 °C. In the blood test, hemoglobin (Hb) was 7.1 g/dL. Emergent endoscopy was performed. At endoscopy, there was an ulcer with exposed vessel in the second part of the duodenum. Endoscopic hemostasis was performed with a hemoclip and the patient was admitted to the intensive care unit. 6 hours after admission, Hb was 8.2 g/dL, and vital signs were stable. After 12 hours of hospitalization, the systolic blood pressure suddenly dropped to 66 mmHg, and hematochezia was detected. Endoscopy was performed again, but hemostasis was not possible due to the blood filling the stomach and duodenum, and the Hb was dropped to 4.0 g/dL. Angiography was performed with blood transfusion and hydration. Angiography showed rupture of the gastroduodenal artery at the periphery of the previous clip hemostasis, and embolization was performed. No further bleeding was observed after embolization, but ischemic changes and disseminated intravascular coagulation (DIC) occurred. The patient died 2 days after embolization.

**Conclusion:** Visceral artery aneurysms or pseudoaneurysms are very rarely found, with an incidence of 0.5%, and gastroduodenal aneurysms are particularly rare (1.5% of all visceral aneurysms). This case demonstrates that inflammation due to duodenal ulcer may also contribute to pseudoaneurysm formation and rupture. In addition, even after successful endoscopic hemostasis, if a sudden drop in blood pressure or severe bleeding occurs, the possibility of aneurysm rupture should also be considered and prompt examination and treatment are required.

