



Introduction

- Bleeding after cold forceps biopsy of the gastrointestinal tract is an extremely rare phenomenon, with an estimated incidence of < 0.1%. Clinically significant bleeding is even rarer.
- However, in patients who have evidence of gastrointestinal bleeding (GIB) after endoscopic biopsy, it is an important cause to consider as demonstrated in this case report.

Case Description

- A 42-year-old female with a past medical history of kidney transplant for end stage renal disease of unknown etiology (with allograft rejection three months prior to admission) on intermittent hemodialysis, and chronic normocytic anemia presented with acute on chronic abdominal pain, diarrhea, nausea, and emesis.
- Infectious evaluation was unrevealing.
- CT abdomen and pelvis showed moderate colitis and moderate to severe enteritis of the small bowel.
- Esophagogastroduodenoscopy (EGD) showed patchy scalloping with a few scattered submucosal hemorrhages in the mid-esophagus and pseudomelanosis duodeni. The gastric body and antrum appeared normal (Figures 1a-1b).
- Colonoscopy showed erythema and submucosal hemorrhages throughout the colon (sigmoid and rectum spared).

Case Description (continued)

- Cold forceps biopsies were taken from the esophagus, stomach, duodenum, and colon. There were no immediately complications. Patient tolerated the procedure well.
- Several hours after endoscopy, patient developed hematochezia, hematemesis, and new severe epigastric abdominal pain along with tachycardia and relative hypotension.
- Labwork: Hemoglobin/Hematocrit of 4.3g/dL/14% (down from 8g/dL/24%), INR 1.4, and platelets 177thou/uL.
- There was no evidence of disseminated intravascular coagulation or hemolysis. CT angiogram did not show active bleeding.
- After resuscitation, repeat EGD revealed oozing from gastric and duodenal biopsy sites. Eight hemoclips were placed for hemostasis at the sites of bleeding (Figure 1c-f). Patient did well with no further bleeding.
- Biopsies revealed esophagitis, lymphocytic gastritis (LG), negative *Helicobacter pylori* stain, and normal duodenal and colonic mucosa.

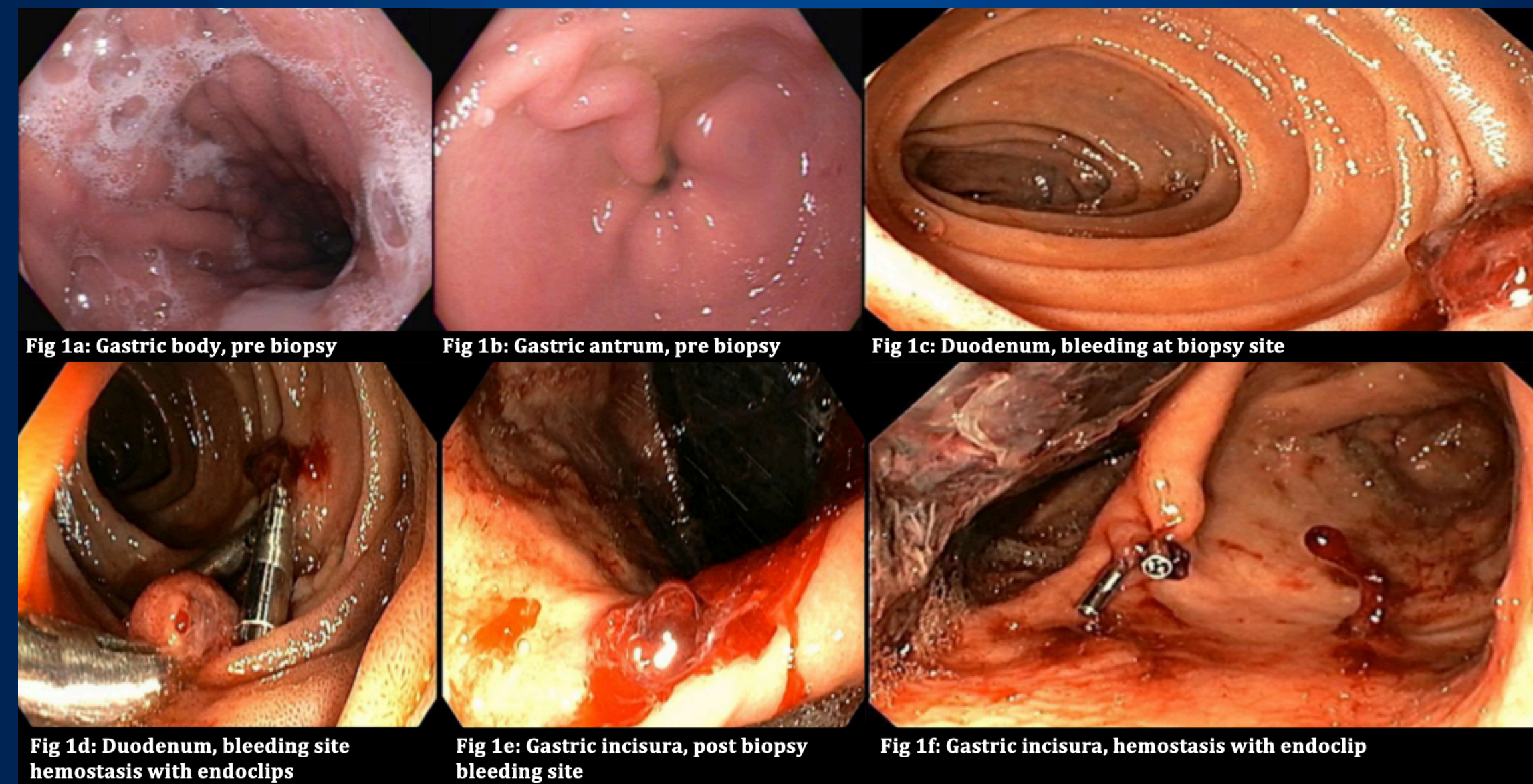


Fig 1a: Gastric body, pre biopsy

Fig 1b: Gastric antrum, pre biopsy

Fig 1c: Duodenum, bleeding at biopsy site

Fig 1d: Duodenum, bleeding site hemostasis with endoclips

Fig 1e: Gastric incisura, post biopsy bleeding site

Fig 1f: Gastric incisura, hemostasis with endoclip

Discussion

- The risk of bleeding after endoscopic cold biopsy is very low, ranging from 0.004 % to 0.07 %; hemodynamically significant luminal bleeding is even rarer.
- The association of LG with this phenomenon, in the absence of other histologic features, remains understudied.
- There are no reports that suggest LG increases the risk of bleeding, however this might be a novel presentation.
- LG has many causes, including medications like angiotensin receptor blockers (ARBs). There are some reports that ARBs can lead to platelet dysregulation, but this has not been linked to any reported cases of GIB.
- Endoscopic evaluation is warranted in this setting for diagnostic and therapeutic purposes.

References

- Alneaimi K, Abdelmoula A, Vincent M, Savale C, Baye B, Lesur G. Seven cases of upper gastrointestinal bleeding after cold biopsy. *Endosc Int Open*. 2016;4(5):E583-E584. doi:10.1055/s-0042-103416
- Fu, Kuangi et al. "Gastric Dieulafoy-Like Lesion Presenting as a Complication after Endoscopic Cold Biopsy." *Gastrointestinal endoscopy* 69.7 (2009): 1397-1398. Web.
- Glusa, E., J Bevan, and S Heptinstall. "Verapamil Is a Potent Inhibitor of 5-HT-Induced Platelet Aggregation." *Thrombosis research* 55.2 (1989): 239-245. Web.
- Harmon, GS, Aksoy, S, Naini, B. A Case of Diffuse Lymphocytic Gastritis Associated With Valsartan, *American Journal of Gastroenterology*; October 2015 - Volume 110 - Issue - p S539
- He Y, Chan EW, Leung WK, Anand S, Wong IC. Systematic review with meta-analysis: the association between the use of calcium channel blockers and gastrointestinal bleeding. *Aliment Pharmacol Ther*. 2015 Jun;41(12):1246-55. doi: 10.1111/apt.13211. Epub 2015 Apr 21. PMID: 25898902.
- Kaplan RC, Heckbert SR, Koepsell TD, Rosendaal FR, Psaty BM. Use of calcium channel blockers and risk of hospitalized gastrointestinal tract bleeding. *Arch Intern Med*. 2000 Jun 26;160(12):1849-55. doi: 10.1001/archinte.160.12.1849. PMID: 10871980.
- Nadar S, Blann AD, Lip GY. Platelet morphology and plasma indices of platelet activation in essential hypertension: effects of amlodipine-based antihypertensive therapy. *Ann Med*. 2004;36(7):552-7. doi: 10.1080/07853890410017386. PMID: 15513305.
- Pahor M, Guralnik JM, Furberg CD, et al. Risk of gastrointestinal haemorrhage with calcium antagonists in hypertensive persons over 67 years old. *Lancet* 1996;347:1061-5. *AJG* - July 1998 PMID: 8602055 DOI: 10.1016/s0140-6736(96)90276-7
- Sarkis F, Abu Daya H, Sharara A, Sowaid A, Barada K. Delayed overt gastrointestinal bleeding after cold endoscopic biopsy. *Endoscopy*. 2013;45(1):75; author reply 76. doi: 10.1055/s-0032-1325866. Epub 2012 Dec 19. PMID: 23254413.
- Vu CK, Korman MG, Bejer I, Davis S. Gastrointestinal bleeding after cold biopsy. *Am J Gastroenterol*. 1998 Jul; 93(7):1141-3. doi: 10.1111/j.1572-0241.1998.346_e.x. PMID: 9672346.