Successful endoscopic management of anastomotic dehiscence with hemoclips application after pancreaticoduodenectomy

Pankreatikoduodenektomi sonrası gelişen anastomoz kaçağının hemoklips uygulaması ile tedavisi

To the Editor,

A 57-year-old woman who had undergone a pancreaticoduodenectomy operation two weeks previously for distal cholangiocellular carcinoma was referred to our department due to prolonged and excessive drainage (>500 ml/day) from her surgical drain. Initial examination of the patient revealed no signs of peritonitis or sepsis. Endoscopic examination revealed a suture dehiscence over almost half of the complete circumference of the gastrojejunal anastomosis (Figure 1A). Following irrigation of the suture line for better visualization, the opposing wound lips were traumatized by forceps to facilitate the re-epithelization process. Afterwards, complete repair was achieved using a total of 11 hemoclips that were carefully applied along the anastomosis (Figure 1B). Anastomotic leakage began to reduce after the endoscopic procedure and ceased after the third day of hemoclip application. A follow-up endoscopy two months later showed an intact anastomosis line with no signs of leakage (Figure 2).

Among a long list of complications currently recognized after pancreaticoduodenectomy, anastomotic leakage is a serious one, with an incidence of 8-20% in recent studies (1). Although the majority of patients with anastomotic leakage can be successfully treated by conservative means, serious consequences such as bleeding and severe intra-abdominal infection may occur (2,3). Moreover, delayed gastric emptying, re-laparotomy, prolonged hospitalization, and added costs are also unwanted related sequelae. Conventional management of clini-

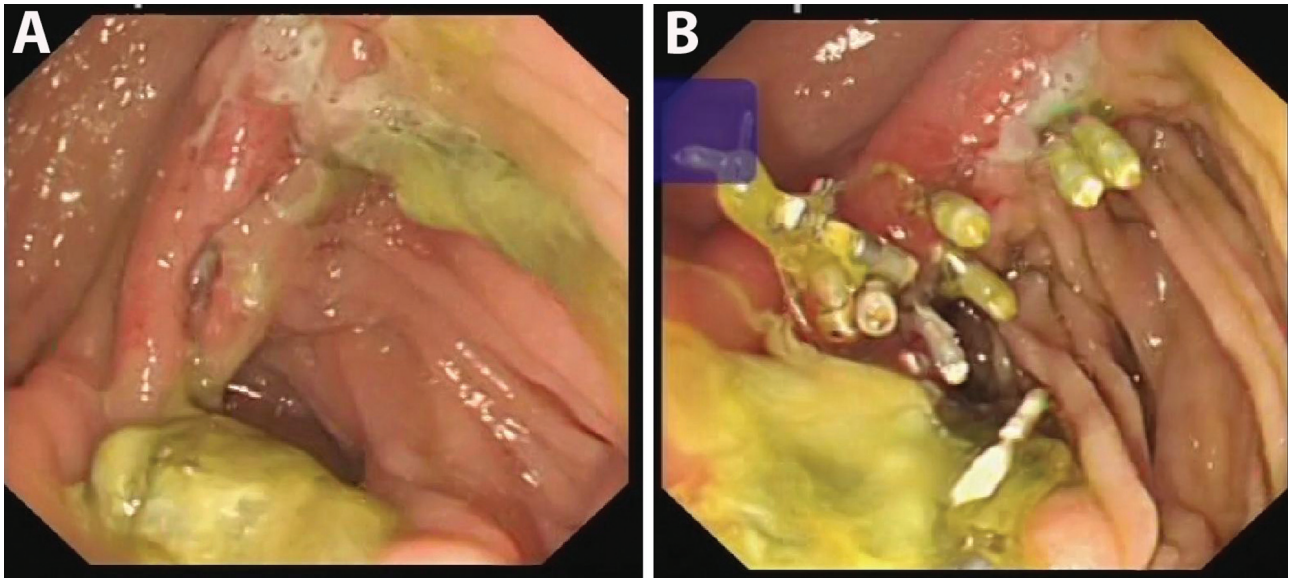

Figure 1. A. Anastomotic dehiscence over almost half of the complete circumference of the gastrojejunal anastomosis, and **B.** Complete repair with a total of 11 hemoclips that were applied along the anastomosis line.

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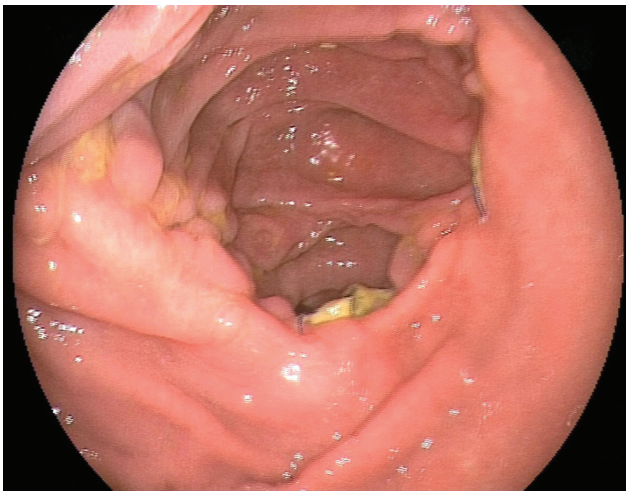

Figure 2. Follow-up endoscopy two months later shows an intact anastomosis line with no signs of leakage.

cal anastomotic leaks is sometimes not sufficient for stemming the leakages, or when sufficient, is time-consuming (4). Several surgical methods of constructing a gastrojejunal anastomosis have been advocated, none of which can completely eliminate the possibility of leakage (1). Current data on the endoscopic management of anastomotic leakage are also limited, with some reports on the successful use of fibrin adhesives and endoscopic vacuum-assisted closure encountered in the literature (5,6). Although endoscopic clipping is also one of the choices in the management of anastomotic leakage, there are few reports in the literature that report successful hemoclip application in the management of leaks of the upper gastrointestinal tract (4,7-9). Based on this limited data, we decided to repair this leakage by endoscopic means, which resulted in great success. An endoscopic irrigation and debridement of the leak, prior to leak closure, seems to be helpful for achieving this successful result. This method also seems to offer a practical alternative to conventional methods reserved for the management of post-surgical anastomotic leakage, especially in the absence of infection (peritonitis, abscess, etc.), which carries a high rate of morbidity and mortality.

In conclusion, treatment of anastomotic leakages with endoscopic hemoclip application is a safe and easily applicable method when compared to conservative treatment. It seems to offer several time and cost advantages. Further randomized controlled studies are needed before any judgment can be made on the efficacy of hemoclip application in this setting. Thus, we think that it is still important for clinicians to report encouraging results that support the use of this endoscopic method in patients at high risk for anastomotic leakage in the upper gastrointestinal tract.

REFERENCES

1. Sriussadaporn S, Pak-Art R, Sriussadaporn S, et al. Pancreaticoduodenectomy with external drainage of the pancreatic remnant. Asian J Surg 2008; 31: 167-73.
2. Yeo CJ, Cameron JL, Sohn TA, et al. Six hundred fifty consecutive pancreaticoduodenectomies in the 1990s: pathology, complications, and outcomes. Ann Surg 1997; 226: 248-57.
3. Bottger TC, Junginger T. Factors influencing morbidity and mortality after pancreaticoduodenectomy: critical analysis of 221 resections. World J Surg 1999; 23: 164-72.
4. Rodella L, Laterza E, De Manzoni G, et al. Endoscopic clipping of anastomotic leakages in esophagogastric surgery. Endoscopy 1998; 30: 453-6.
5. Testi W, Vernillo R, Spagnulo M, et al. Endoscopic treatment of intestinal anastomotic leakage in low anterior resection of the rectum by using fibrin adhesive. Our experience. Minerva Chir 2002; 57: 683-8.
6. Weidenhagen R, Gruetzner KU, Wiecken T, et al. Endoscopic vacuum-assisted closure of anastomotic leakage following anterior resection of the rectum: a new method. Surg Endosc 2008; 22: 1818-25.
7. Merrifield BF, Lautz D, Thompson CC. Endoscopic repair of gastric leaks after Roux-en-Y gastric bypass: a less invasive approach. Gastrointest Endosc 2006; 63: 710-4.
8. Gumbs AA, Duffy AJ, Bell RL. Management of gastrogastric fistula after laparoscopic Roux-en-Y gastric bypass. Surg Obes Relat Dis 2006; 2: 117-21.
9. Ibis M, Beyazit Y, Onal IK, et al. Successful endoscopic closure of anastomotic leakage following anterior resection of the rectum by endoclip application. Am J Gastroenterol 2010; 105: 1447-8.

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