CASE REPORT

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Treatment of Dieulafoy Lesion in Juxtapapillary Duodenal Diverticula by Monopolar Hemostatic Forceps with Soft Coagulation

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ABSTRACT Dieulafoy lesion (DL) is an uncommon cause of nonvariceal upper gastrointestinal bleeding. It is usually seen in the stomach; however, some cases have been reported within juxtapapillary duodenal diverticula (JPDD). DL in JPDD was observed in the endoscopic examination of an 85-year-old male patient who attended the hospital because of melena. The lesion was successfully treated by applying monopolar hemostatic forceps with soft coagulation (MHFSC). Despite being rare, DL can be seen in JPDD. MHFSC is effective and reliable in treating DL.

Keywords: Dieulafoy lesion; juxtapapillary duodenal diverticula; hemostatic forceps

Dieulafoy lesion (DL) is a vascular anomaly characterized by the protruding of the large submucosal tortuous artery from the mucosal defect without ulcer or erosion.[1] Diagnosis is usually difficult but the rate of success is high when using endoscopic treatments.[2] Juxtapapillary duodenal diverticula (JPDD) are generally asymptomatic and are frequently seen during endoscopic retrograde cholangiopancreatography (ERCP). However, JPDD-based gastrointestinal (GI) bleeding is rarely observed.[3]

The case reported here presented DL in JPDD, which was successfully treated with monopolar hemostatic forceps soft coagulation (MHFSC).

CASE REPORT

An 85-year-old male patient was admitted to our clinic because of melena that had been present for three days. He was receiving ramipril/hydrochlorothiazide due to arterial hypertension. His blood pressure was 130/70 mmHg and his heart rate was 80 beats/minute. The hemoglobin level was 8 g/dL (normal 13.5-17.5 g/dL) at the time of admission.

The patient had had two prior episodes of melena and had a total of four units of blood transfusion. The patient had previously twice undergone esophago-gastro-duodenoscopy (EGD) and one colonoscopy, but the origin of the hemorrhage had not been detected. EGD was repeated in our clinic with a standard front-view endoscope (EG 530WR; Fujinon, Tokyo, Japan). A JPDD (with a diameter of approximately 5 cm) was observed in the second duodenal segment and a vascular lesion consistent with DL with a diameter of 2 mm was observed in the diverticula (Figure 1). No active bleeding was observed in the lesion. No suitable position could be found for treating the JPDD using the endoscope. A cap (Reveal Distal Attachment Cap; US Endoscopy, Mentor, Ohio) was attached to stabilize the endoscope. The

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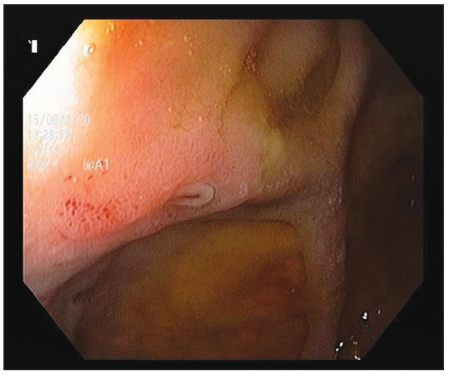

FIGURE 1: Endoscopic view of Dieulafoy lesion in juxtapapillary diverticulum.

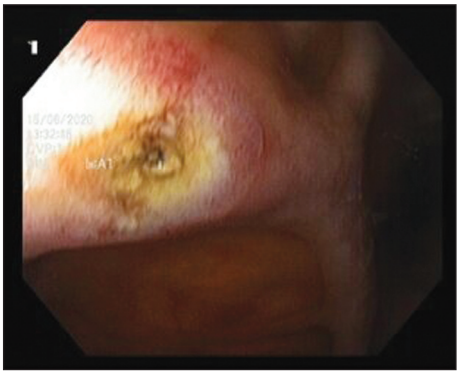

FIGURE 2: Dieulafoy lesion was coagulated with monopolar hemostatic forceps.

lesion was grasped and coagulated with hemostatic forceps (Coagrasper, FD-410LR; Olympus, Tokyo, Japan), using the soft coagulation mode at 60W, effect 4 (VIO 200S; Erbe, Tuebingen, Germany) (Figure 2). The coagulated area was observed for 1 minute, after which the endoscopy was terminated. No signs of bleeding were seen during follow-up and the patient was discharged after 72 hours. Two months later, the patient was stable, without signs of bleeding and his hemoglobin level was 12 g/dL. The patient has given his written consent for this case report.

DISCUSSION

Advances in endoscopy have increased the detection rate of DL. DL is an uncommon (1-2%) cause of upper GI bleeding. It is generally seen in the stomach, while it is rare in the duodenum.[1,3]

Diverticula located near the major duodenal papilla are termed JPDD. They are more frequently observed during ERCP than in more front-view endoscopic examinations (2.5-22%).[4,5] They are mostly asymptomatic and rarely a focus of bleeding.[5] DL in JPDD, which is usually missed during an EGD, is extremely rare and only four cases have been reported so far.[6-9] This case is important since it is the fifth reported case.

There are various endoscopic treatment methods [injection, hemoclip application, endoscopic band ligation (EBL), thermal coagulation] for DL.[2] Clip therapy and EBL have been found to have similar efficacies in treating DL.[10] There are case-based reports regarding the use of MHFSC in DL treatment.[11-13] However, to our knowledge, no study comparing MHFSC and other methods of DL treatment is available. MHFSC has been found to be more successful than using a hemoclip in treating peptic ulcers.[14] According to the guidelines of the American Gastroenterological Association for nonvariceal upper GI bleeding, hemostatic forceps may be an alternative to other thermal and mechanical methods in the treatment of ulcers located in difficult areas to reach.[12] There is, however, no consensus on the treatment of DL. Treatment options depend on the mode of presentation, the site of the lesion and the available expertise.[1] In our clinic, we have recently been gaining greater experience of endoscopic submucosal dissection and have been using hemostatic forceps more frequently than before. As a result, we believe that using hemostatic forceps is an effective treatment method, especially for high-risk peptic ulcer and DL.

It has been reported that using MHFSC, which is reliable in treating peptic ulcers, to treat gastric DL causes late-stage perforation.[13] Given the localization of the lesion in our case, a thinner inner diverticulum wall made thermal treatment risky. We think that it may be difficult to use a hemoclip in areas where the maneuverability of an endoscope is limited, such as JPDD. In addition, aspiration of the mucosa in JPDD can be difficult during band treatment. The efficacy and reliability of MHFSC in duodenum have been proven; however, there is no data on the use of MHFSC in JPDD.[11,14] In this case, a DL in JPDD was successfully treated with MHFSC for the first time and no complications were seen afterwards. Since the duodenal wall is thinner in JPDD, it may be more appro-

priate to use a cap for the stabilization when using hemostatic forceps in this area, and to keep the voltage used for coagulation lower than that used for stomach and colon. Further studies on the efficacy and safety of using MHFSC in DL treatment are needed.

When the source of bleeding cannot be found in the etiology of upper GI bleeding, the possibility of JPDD must be examined. It should be noted that DL, which is frequently observed in the stomach, is rarely observed in JPDD. MHFSC is an effective and reliable method for the treatment of DL.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution.

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