

Argon plasma coagulation therapy after
submucosal injection of normal saline solution
for local recurrence of large nonampullary
duodenal neoplasm

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Main text

A 70-year-old man underwent endoscopic mucosal resection (EMR) of a 10 mm non-ampullary duodenal bulb adenoma 10 years ago. Histopathological examination of the EMR specimen showed a tubular villous adenoma with a high degree of atypia and an unclear horizontal margin. Two years after the resection, a 10 - 20 mm local recurrence appeared at the EMR site, which gradually enlarged but did not exhibit histopathologic signs of malignancy. The latest observation indicated a 5 cm, type 0-I-0-IIa lesion. The lesion was also noted to be flat with papillary elements and a milk-white mucosa; it also had an elevated area that was deep-red in color (Fig. 1). Histopathological findings from 4 point of biopsy at the site of elevation demonstrated a well-differentiated adenocarcinoma. We recommended surgical resection because of suspected submucosal invasion, predicted fibrosis of the local recurrent lesion, and the high risk of duodenal endoscopic resection. However, the patient was refused surgery. Thus, we performed endoscopic therapy. We performed argon plasma coagulation (APC) at the lesion margins. In order to prevent perforation, normal saline was injected into the submucosal layer by high-pressure injection system. Next, we performed EMR of the elevated lesion and APC of the entire lesion (Pulsed APC effect 2, 40W) (Video 1). Two months later, APC was repeated due to local recurrence (Fig. 2). No complications were observed with either instance of APC. Two months after the second round of APC therapy, duodenal neoplasia had not recurred (Fig. 3). The complete resection rate for endoscopic submucosal dissection of duodenal neoplasms is high, but a high incidence of associated perforations has also been reported. APC of gastrointestinal neoplasms demonstrates good results and low rates of local recurrence, but there are few reports of APC for duodenal neoplasms. Although we must consider the possibility of duodenal perforation associated with APC, submucosal injection of normal saline can prevent unexpected, APC-related deep thermal injuries. APC of duodenal neoplasms is a safe and effective treatment. Few articles have been published regarding this subject, for this technique an important consideration for elderly people who are poor surgical conditions.

Figure legends

Fig.1 A type 0-I-0-IIa, 5-cm lesion. The lesion is flat with papillary regions and a milk-white mucosa; an elevated area, deep-red in color, is also evident.

Fig.2 Repeated argon plasma coagulation therapy was performed 2 months after the first treatment, due to local recurrence.

Fig.3 Recurrence is not evident at the lesion site, 4 months after argon plasma coagulation therapy.

Video

Video 1 Argon plasma coagulation therapy (APC) of the entire lesion (Pulsed APC effect 2, 40 W) followed by endoscopic mucosal resection of the elevated lesion. To prevent perforation, saline was injected into the submucosal layer before APC.













