

Argon plasma coagulation for early gastric cancer: technique and outcome (CME)

Tadashi Kitamura, MD, Satoshi Tanabe, MD, Wasaburo Koizumi, MD, Hiroyuki Mitomi, MD, Katsunori Saigenji, MD

Sagamihara, Japan

Background: Argon plasma coagulation (APC) is a noncontact technique for tissue coagulation. APC has been used to treat early gastric cancer in patients who cannot undergo EMR or open surgery, but a standard procedure for APC is lacking.

Objective: Our objectives were to assess the clinical usefulness of APC in patients with early gastric cancer.

Design: This was a small, retrospective pilot study.

Setting: All patients were treated at the Department of Gastroenterology, Kitasato University East Hospital, Sagamihara, Japan.

Methods: We studied 40 patients with early gastric cancer in whom both EMR and open surgery were contraindicated. The macroscopic tumor type was superficial elevated in 11 patients, superficial depressed in 27, and superficial elevated plus superficial depressed in two. The histologic classification was intestinal type in 37 patients and diffuse type in 3.

Intervention: From January 1998 through March 1999, all patients received one session of APC. From April 1999 through August 2001, all patients received two sessions of APC. From September 2001 through March 2002, an additional session of APC was given only to patients who had large protruding lesions, depressed lesions 2 cm or greater in diameter, or submucosal invasion.

Main Outcome Measurements: The main outcome measurements were residual tumor or recurrence of early gastric cancer.

Results: Intestinal-type intramucosal carcinoma disappeared after one or two sessions of APC. Submucosal and diffuse-type tumors had a high risk of residual tumor cells because of inadequate treatment after one session of APC. However, such lesions were locally controlled by follow-up APC.

Limitations: This was a small, retrospective pilot study. Confirmation of long-term outcome is required.

Conclusions: Small early gastric carcinomas can be successfully treated by a single session of APC. Larger protruding-type lesions and submucosal tumors are likely to require two sessions of APC. (*Gastrointest Endosc* 2006;63:48-54.)

Argon plasma coagulation (APC) is a noncontact technique for tissue coagulation in which a high-frequency electrical current is transferred to the target tissue by means of ionized argon gas. An APC applicator for endoscopic use was developed by Grund et al¹⁻³ in 1994. APC has been introduced to various specialties.

The procedures and indications for EMR in the treatment of early gastric cancer generally have been

established.^{4,5} EMR has proved to be a minimally invasive, useful treatment. However, aging of the populations in many countries has led to increasing numbers of patients with early gastric cancer in whom both EMR and open surgery are contraindicated because of concomitant disease and associated complications.

APC has been used to treat early gastric cancer in patients who cannot undergo EMR or open surgery for various reasons,⁶ but a standard procedure for APC is lacking. In January 1998, we started a pilot study designed to establish the procedure for APC in patients with early gastric cancer and have followed 40 patients. We describe the

See CME section; p. 114.

Copyright © 2006 by the American Society for Gastrointestinal Endoscopy
0016-5107/\$32.00

doi:10.1016/j.gie.2005.08.009

TABLE 1. Characteristics of the 40 patients with early gastric cancer treated with argon plasma coagulation*

Gender (men/women)	25/15	
Mean age, y	73.3 ± 8.6 (53-90)	
Macroscopic type	Ila*	11
	Ilc†	27
	Ila* + Ilc†	2
Histologic type	Intestinal type	37
	Diffuse type	3
Depth of invasion	Mucosa (Intestinal type, 32; diffuse type, 3)	35
	Submucosa (Intestinal type, 32; diffuse type, 0)	5
Patients who received previous treatment	11 (27.5%) (EMR, 8; heat probe, 2; APC, 1)	
Patients with concomitant disease	33 (82.5%) (severe heart failure, 11; liver cirrhosis, 7; renal failure on hemodialysis, 3; others, 12)	

EMR, Endoscopic mucosal resection; APC, argon plasma coagulation.

*Superficial elevated type.

†Superficial depressed type.

clinical outcome and the effects of APC on the mucosa in this series of patients.

PATIENTS AND METHODS

We studied 40 patients with early gastric cancer (T1 disease) who underwent APC from January 1998 through March 2002. APC was performed because EMR was precluded by the presence of an ulcer scar caused by previous treatment or because EMR and open surgery were precluded by advanced age, serious concomitant disease, poor general condition, or refusal to undergo more invasive procedures (Table 1). The mean age of the patients was 73.3 ± 8.6 years (range 53-90 years; 25 men and 15 women). The macroscopic tumor type was superficial elevated (IIa) in 11 patients, superficial depressed (IIc) in 27, and superficial elevated plus superficial depressed (IIa + IIc) in two. The histologic classification was intestinal type in 37 patients and diffuse type in 3. All except 6 patients with macroscopic evidence of intestinal-type intramucosal carcinoma were examined by EUS. Five patients (8%) had tumors with submucosal invasion, all of which were intestinal type. Eleven patients (27.5%) could not undergo EMR because ulcer scars caused by previous treatment were located near the tumor. A total of 33 patients had concomitant diseases that precluded EMR and open surgery, including 11 with chronic heart failure, 7

Capsule Summary

What is already known on this topic

- APC may be used to treat early gastric cancer in patients who cannot undergo EMR or surgery, but the technique is not standardized.

What this study adds to our knowledge

- Small early gastric cancers may be treated with one-session APC but larger polypoid or submucosal lesions require two sessions.

with liver cirrhosis, 3 with chronic renal failure that required hemodialysis, and 12 with other diseases. All patients were observed from the day of treatment until the final endoscopic examination, between January 1998 and March 2004.

The equipment for APC included an argon gas source (APC 300; Erbe Elektromedizin, Tübingen, Germany) and a high-frequency generator (Erbotom ICC 200; Erbe). The argon gas flow rate was 2.0 L/min, and the current was set at 60 W.

The area around the tumor was marked, and the region inside of the designated area was evenly treated by APC until the lesion had completely coagulated and appeared dry on endoscopic examination. This procedure was defined as one treatment session (Fig. 1).

From January 1998 through March 1999, all patients received one treatment session. However, some patients had residual tumor or recurrence attributed to inadequate treatment. From April 1999 through August 2001, the floor of the ulcer resulting from APC was re-treated about 1 week after the initial treatment session. Thus, all patients received two treatment sessions (Fig. 2). In March 2001, one patient died of perforation ascribed to overtreatment. Consequently, from September 2001 through March 2002, coagulation was repeated about 1 week after initial APC only in patients who had large protruding lesions, depressed lesions 2 cm or greater in diameter, or submucosal invasion. Thus, follow-up APC of the ulcer floor was performed in patients with an increased risk of residual tumor or recurrence.

Patients who were discharged after endoscopic examination, performed 3 to 5 days after treatment, revealed that the ulcer was healing with no complications. After discharge, follow-up endoscopic examinations with biopsies of the lesion site were performed on an outpatient basis at 3, 6, 12, and 18 months. Thereafter, endoscopic examination was performed annually in patients with no evidence of residual tumor or recurrence.

Informed consent was obtained from all patients, and the study protocol was in accord with the ethical guidelines of the 1975 Declaration of Helsinki.

Download English Version:

<https://daneshyari.com/en/article/3308571>

Download Persian Version:

<https://daneshyari.com/article/3308571>

[Daneshyari.com](https://daneshyari.com)