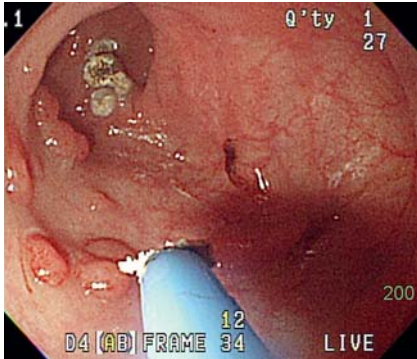


## Minute perforation after argon plasma coagulation for management of small colonic polyps



**Fig. 1** Most of the small polyps in the colon were ablated using argon plasma coagulation (APC).

A 53-year-old woman presented with a 6-month history of chronic constipation and abdominal bloating. Because of concern about a colorectal lesion, colonoscopy was done and hundreds of small polyps were found throughout the colon, most being less than 4 mm in diameter. Some of the bigger polyps were removed by polypectomy and were found at pathologic examination to be tubular adenoma. As the patient was unwilling to undergo a rectum-preserving total colectomy, argon plasma coagulation (APC) was selected to ablate the remaining polyps as far as possible (● **Fig. 1**).

APC was done using an Olympus system (PSD-60; Olympus, Tokyo, Japan) at settings of argon flow rate 1 l/minute, power 40 W, effect 1.

The patient tolerated the 1-hour procedure well until the end, when severe abdominal distension without rebound tenderness was noted. Because of the persistent abdominal discomfort, a standing chest radiograph was obtained which showed massive free air in the peritoneum (● **Fig. 2**).

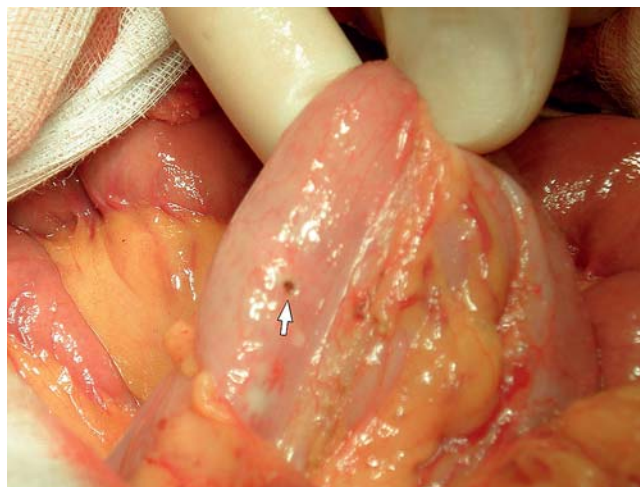
Laparotomy was done immediately. The entire colon was checked carefully and a tiny perforation was found at the transverse colon (● **Fig. 3**, arrow).

After surgical closure of the perforation, the patient recovered uneventfully and was discharged 2 weeks later.

APC is safe and effective for the management of gastrointestinal tract bleeding, polyp remnants, and watermelon stom-



**Fig. 2** At 3 hours after colonoscopy, a standing chest radiograph revealed massive pneumoperitoneum.



**Fig. 3** At laparotomy, a tiny perforation (arrow) was found at the transverse colon.

ach, ablation of precancerous lesions, and so on [1–3]. An asymptomatic air accumulation in the peritoneum may develop after APC because the high argon flow induces submucosal emphysema with a leakage of gas through the gastrointestinal tract wall. Conservative treatment is suggested for this situation [4]. As our patient underwent APC ablation of numer-

ous colonic polyps, the air insufflation was prolonged, leading to severe pneumoperitoneum even though there was only a tiny perforation. Thus, it is very important to distinguish between the symptomatic 'perforation' and the asymptomatic 'air accumulation' as causes of pneumoperitoneum.

Endoscopy\_UCTN\_Code\_CPL\_1AJ\_2AI

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**DOI** 10.1055/s-0029-1214432

*Endoscopy* 2009; 41: E251 – E252

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