

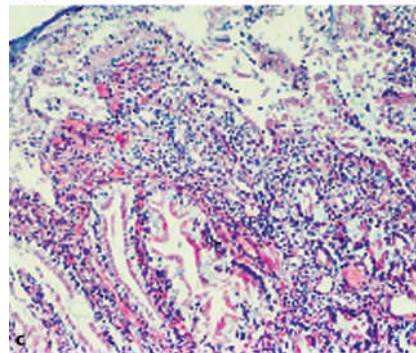
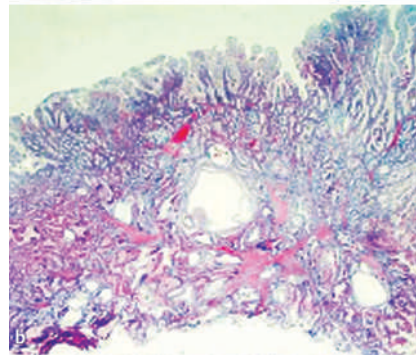
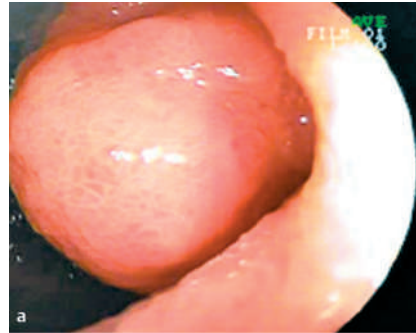
## Small-bowel perforation after endoscopic resection of a Peutz-Jeghers polyp in an infant using double-balloon enteroscopy



**Figure 1** The characteristic mucocutaneous macules of Peutz-Jeghers syndrome located on the lower lip of the patient.

Double-balloon-enteroscopy (DBE) provides a facility for the diagnosis and treatment of small-intestinal disease [1]. To date its use has not been described in infants. A boy aged 3 years and 10 months who had small-intestinal bleeding underwent esophagogastroduodenoscopy in another hospital, when two gastric polyps were found. He was referred to us for DBE. Peutz-Jeghers syndrome was diagnosed on the basis of the findings of gastric polyps and circumoral pigmentation (▶ **Figure 1**). DBE was performed after informed consent was obtained, using a Fujinon EN-450 P5/20 endoscope (Fujinon-Toshiba ES System Co. Ltd., Tokyo, Japan) under general anesthesia. A large polyp (3 cm) was found in the proximal jejunum, which had surface erosions (▶ **Figure 2a**). The polyp was removed using a diathermy loop. Histological examination confirmed the diagnosis of a Peutz-Jeghers polyp (▶ **Figure 2b**). There were erosions within the polyp (▶ **Figure 2c**), suggesting a possible source of bleeding. A double-balloon colonoscopy performed subsequently was unremarkable, but ileoscopy was not possible.

A second DBE was performed 18 days later because of hematochezia. No source of bleeding could be detected, but a perforation was seen in the proximal jejunum while withdrawing the endoscope. At laparotomy, the perforation was found to be attached to an adhesion that was extending from the distal ileum to the site of the former jejunal polyp. The perforated segment was resected. On examina-



**Figure 2** A Peutz-Jeghers polyp. **a** Endoscopic view, showing the Peutz-Jeghers polyp in the proximal jejunum. **b** A microphotograph of the resected Peutz-Jeghers polyp, showing the typical tree-shaped structure of the polyp (hematoxylin and eosin [H&E] stain, original magnification  $\times 1$ ). **c** A microphotograph showing erosions of the resected Peutz-Jeghers polyp, a possible source of the gastrointestinal bleeding (H&E stain, original magnification  $\times 10$ ).

tion of the entire intestine, there was no evidence of additional intestinal polyps. His postoperative course was unremarkable. The formation of an adhesion between the site of the jejunal polyp and the terminal ileum suggests that a trans-

mural intestinal injury had taken place during the resection of the jejunal polyp. The push and pull forces between parts of the small intestine were probably transmitted to the adhesion during the second DBE, leading to perforation. The potential benefits of DBE, combined with the facility for endoscopic resection of intestinal polyps [2] have to be balanced against the increased risk of perforation in infants.

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