Tension pneumoperitoneum following endoscopic submucosal dissection of leiomyoma of the cardia

A 39-year-old woman underwent video esophagography with barium because of persistent heartburn and regurgitation. A smooth defect with eccentric contours, about 2 × 3 cm in size, was found at the esophagogastric junction. Upper gastrointestinal endoscopy confirmed the presence of a soft, polypoid, submucosal mass surrounding the cardia. Endoscopic ultrasonography showed a hypoechogenic, C-shaped lesion originating from the muscularis propria, with a fine echotexture consistent with leiomyoma. No biopsy was taken. The patient was considered a good candidate for endoscopic submucosal resection. The procedure was performed under general anesthesia with the patient in the supine position. A standard 9-mm endoscope with a soft transparent hood attached to its tip was advanced through an overtube into the stomach and then retroflexed. Enucleation was carried out after submucosal injection of 10 mL of diluted epinephrine using an insulated tip diathermic electrosurgical knife (IT-Knife 2; Olympus, Tokyo, Japan) at 100 W and a hook knife (Olympus Optical, Tokyo, Japan) at 60 W. The dissection started along the lower border of the lesion and then extended circumferentially. Once the submucosal layer was reached, the tumor was gradually dissected away from the muscular layer and removed with an endoscopic bag. En bloc resection was achieved and the mucosal margins were sutured using three endoscopic clips. The procedure lasted 170 minutes. Histological examination confirmed the diagnosis of leiomyoma.

Postoperatively, the patient complained of severe, persistent abdominal pain relieved by analgesics and nasogastric intubation. A plain film of the abdomen taken two hours after the endoscopic procedure showed pneumoperitoneum (arrows). Paracentesis for successful treatment of tension pneumoperitoneum is mandatory for prevention of cardiopulmonary complications and the abdominal compartment syndrome.

In conclusion, tension pneumoperitoneum is a rare but potential complication of endoscopic submucosal dissection at the esophagogastric junction. Even in the absence of endoscopically detected perforation, prompt recognition and treatment of pneumoperitoneum is mandatory to prevent the cascade of events leading to cardiopulmonary complications and the abdominal compartment syndrome.

Competing interests: None

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