and phytobezoar manifest commonly in young girls with psychiatric disorders. Diagnosis is usually made by computed tomography (CT) scan or ultrasound. Although conservative treatment modalities are described, the surgical approach to a gastric phytobezoar includes extraction of the bezoars with gastrotomy and milking of the bezoar into the small bowel (2-4).

Gastric perforation resulting from trichobezoar (Rapunzel syndrome) is an unusual condition (5),

but no reference to the coincidence of PDU and gastric phytobezoar caused by the ingestion of olive seeds was found in the literature. In fact, we were unable to find any reference to gastric phytobezoar caused by the ingestion of olive seeds, with or without perforation. If the patient had had a normal pylorus, the olive seeds could have been digested, as in the case of this patient's husband. Thus, in the case of pyloric stenosis in a patient, ingestion of olive seeds must be strictly forbidden.

REFERENCES

- Phillips MR, Zaheer S, Drugas GT. Gastric trichobezoar: case report and literature review. Mayo Clin Proc 1998; 73: 653-6.
- Serour F, Dona G, Kaufman M, et al. Acute intestinal occlusion caused by phytobezoars in Israel. Role of oranges and persimmons (in French). J Chir (Paris) 1985; 122: 299-304.
- 3. Walker-Renard P. Update on the medicinal management of phytobezoars. Am J Gastroenterol 1993; 88: 1663-6.
- Krausz MM, Moriel EZ, Ayalon A, et al. Surgical aspects of gastrointestinal phytobezoar treatment. Am J Surg 1986; 152: 526-30.
- Koc O, Yildiz FD, Narci A, Sen TA. An unusual cause of gastric perforation in childhood: trichobezoar (Rapunzel syndrome). A case report. Eur J Pediatr 2009; 168: 495-7.

Burak KAVLAKOĞLU, Süleyman ORAL

Department of General Surgery, Ankara Oncology Training and Research Hospital, Ankara

Iatrogenic pneumoscrotum after colonoscopy

Kolonoskopi sonrası iyatrojenik pnömoskrotum

To the Editor,

Colonoscopy is regarded as one of the important procedures in the diagnosis, treatment and follow-up of colorectal lesions. Although the rate of pneumoscrotum is low, this complication can lead to significant morbidity and mortality. Pneumoscrotum is one of the perforation-related complications, and it is extremely rare.

A 70-year-old male patient applied to our clinic with abdominal pain. Colonoscopy was performed for the differential diagnosis of abdominal pain and revealed a 3 cm diverticulum in the sigmoid colon, and the procedure was urgently terminated in order to prevent perforation. The patient descri-

bed swelling in his neck, face, upper chest, inguinal region, and on the scrotum 3 hours after the procedure. He had diffuse abdominal tenderness on abdominal examination. Computerized tomography of the thorax revealed diffuse air accumulation in the mediastinum, pericardium and in subcutaneous tissues (Figure 1a). Abdominal tomography also showed air accumulation in the scrotal, perirectal, retroperitoneal, and subcutaneous regions (Figure 1b).

He was hospitalized and operated urgently for perforation. During laparotomy, a 3x3 cm diverticulitis and a perforation 1 cm in diameter were de-

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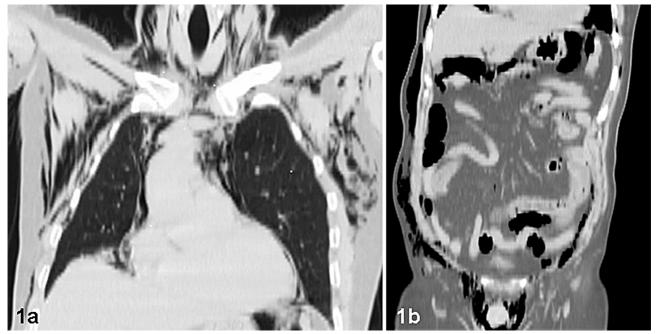


Figure 1. a. Presence of air in the mediastinum, pericardium and in subcutaneous tissues is shown in the computerized tomography. **b.** Peritoneal, scrotal and subcutaneous air accumulation is shown by abdominal tomography.

tected. Resection and Hartmann colostomy, which was closed 3 months later, were performed.

Perforation is a rare complication of colonoscopy, with an incidence of 0.016. Pneumoscrotum is one of the perforation-related complications (1,2). There are three mechanisms by which air can accumulate in the scrotum: first, subcutaneous or retroperitoneal air can dissect through fascial layers into the scrotal wall; second, local gas can be produced or air is introduced; and third, intraperitoneal air can reach the scrotum via open processus vaginalis (3,4). Pneumoscrotum can be an early finding of a serious pathology or can be the result of a benign condition. Ur-

gent surgical intervention is essential in case of infectious conditions or in the presence of diffuse peritoneal irritation findings. Conservative therapy can be considered if no peritoneal irritation findings are present or if the vital signs are not abnormal (2,3,5).

We observed pneumoperitoneum, pneumomediastinum, pneumopericardium, and pneumoscrotum in our patient due to a perforated and inflamed diverticulum. The air first spread to the peritoneum and then to the mediastinum, scrotum and subcutaneous tissues in our patient. Although rarely reported, the endoscopist should be aware of pneumoscrotum after colonoscopy.

REFERENCES

- Rathgaber SW, Wick TM. Colonoscopy completion and complication rates in a community gastroenterology practice. Gastrointest Endosc 2006; 64: 556-62.
- Singh S, Thakur M. Pneumoscrotum after colonoscopy. Can J Gastroenterol 2008; 22(4): 411-3.
- Fu KI, Sano Y, Kato S, et al. Pneumoscrotum: a rare manifestation of perforation associated with therapeutic colonoscopy. World J Gastroenterol 2005; 28: 5061-3.
- Watson HS, Klugo RG, Coffield KS. Pneumoscrotum: report of two cases and review of mechanisms of its development. Urology 1992; 40: 517-21.
- Graepler F, Lauer UM, Horger MS. Pneumoscrotum after colonoscopic polypectomy. Endoscopy 2007; 39 (Suppl): E90.

Erol ÇAKMAK¹, Ayhan KOYUNCU², Abdülkerim YILMAZ¹, Özlem YÖNEM¹, Hilmi ATASEVEN¹, Cihat SARKIŞ¹

Department of 'Gastroenterology and 'General Surgery, Cumhuriyet University School of Medicine, Sivas