



# Splenic Rupture after Colonoscopy

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## ABSTRACT

Colonoscopy is the gold standard in diagnosis of colorectal diseases. It is generally a safe procedure with low complication rate. Splenic rupture is a very rare complication of colonoscopy. The case presented here, is a 57 years old male patient with complaint of hematochezia. He had colonoscopy and diagnosed as sigmoid colon tumor. After colonoscopy he had the findings of acute abdomen. At the operation splenic rupture was detected and he had undergone splenectomy with subtotal colectomy for the sigmoidal tumor. Splenic rupture is very rare but fatal complication of colonoscopy. In the management of patients with post-colonoscopy abdominal pain splenic injury should be kept in mind.

**Key words:** Splenic rupture, colonoscopy, complication

## Kolonoskopiye Bağlı Dalak Rüptürü

### ÖZET

Kolonoskopi, Kolorektal hastalıkların tanısında, düşük komplikasyon oranına sahip ve güvenli olmasıyla altın standart yöntem olarak kabul edilmektedir. Dalak rüptürü kolonoskopinin nadir bir komplikasyonu olarak bildirilmektedir. Burada sunulan hasta, 57 yaşında hematokeziya şikayeti olan bir erkek hastadır. Hastaya yapılan kolonoskopide sigmoid kolonda tümöral lezyon tespit edildi. Kolonoskopi sonrası akut batın bulguları gözlenen hasta ameliyata alındı. Ameliyatta, dalak rüptürü tespit edilerek, hastaya subtotal kolektomi ve splenektomi yapıldı. Dalak rüptürü kolonoskopiye bağlı nadir görülen ancak ölümcül bir komplikasyondur. Kolonoskopi sonrası karın ağrısı olan hastalarda dalak rüptürü olabileceği akılda tutulmalıdır.

**Anahtar kelimeler:** Dalak rüptürü, kolonoskopi, komplikasyon

## INTRODUCTION

Colonoscopy is the gold standard in diagnosis of colorectal diseases. It is generally a safe procedure with low complication rate. Complications of colonoscopy include colonic perforation (%0.1-0.2), bleeding (1-2%), infection, abdominal distention, postpolypectomy coagulation syndrome and very rarely splenic rupture (1-4). Major risk factors for these complications include inflammatory bowel disease, therapeutic procedures performed during colonoscopy and intraabdominal adhesions from prior abdominal surgeries (5). There have been 102 cases reported with splenic rupture due to colonoscopy, in literature (6).

Hemodynamic instability, clinical features of acute abdomen, leukocytosis, and/or acute anemia in patients with persistent abdominal pain after colonoscopy demand immediate attention. Intestinal perforation or bleeding must first be excluded, after which CT scans can be used for further evaluation. The most likely mechanism for splenic rupture is tension on the splenocolic ligament or on pre-existing adhesions due to manipulations of the colon, or as a result of a direct injury to the spleen during passage through the splenic flexure. Intraperitoneal adhesions or any underlying splenic pathology may increase the risk (7-9). Here we present the case with splenic rupture after diagnostic colonoscopy.

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## CASE

Fifty seven years old male patient administered to outpatient clinic with complaints of weight loss and hematochesia. The physical examination revealed no abnormality and he had mild anemia. He had undergone colonoscopy. He had an obstructive tumoral lesion at sigmoid colon and biopsies had been taken. The rest of the colon reported to be normal. The histopathological examination revealed grade 2 adenocarcinoma. Computed tomography of the abdomen revealed; wall thickness at the sigmoid colon with no metastasis and no invasion.

Six days after the colonoscopy the patient had administered to emergency department with complaints of abdominal pain and distention. Physical examination revealed; diffuse abdominal tenderness, defense and rebound tenderness. He had undergone emergency laparotomy.

*Preoperative findings;* After laparotomy with midline incision there was fresh blood in abdominal cavity. The entire abdominal cavity was explored and the cause of hemorrhage was found to be the splenic injury. There was tumoral lesion on the sigmoid colon and the proximal colon was dilated. Subtotal colectomy with ileorectal anastomosis and splenectomy was performed. There had been no complications after the surgery. The patient was discharged from the hospital on the postoperative 7th day.

## DISCUSSION

Colonoscopy is widely used in diagnosis and treatment of many colonic disorders. Splenic injury due to colonoscopy is very uncommon. The first case was reported in 1974 (10) and the number of cases with splenic rupture due to colonoscopy reported is 102, since then (6). Smith et al and Ong et al each reported one case of splenic injury in a series of 20139 and 6387 colonoscopies, respectively (11,12). However, the number of cases with splenic rupture due to colonoscopy reported to be 102 cases (6). Besides, the incidence of splenic injury after colonoscopy is 0.004%, it can be a fatal complication with a mortality rate of 5% (6).

Most of the patients have the complaints of abdominal pain, anemia and elevated white blood cell count. Administration time to hospital is mostly the first 24

hours; however, as in our case this time can be as long as 6 days (6). In the management of post-colonoscopy symptoms, after elimination of bleeding and perforation, a CT scan can be helpful. CT scan can show extend of the injury and the hemoperitoneum (13, 14).

Splenic injury can be treated by splenectomy, splenic artery embolisation or can be followed conservatively. JRA Skipworth et al reported that 64.4% of splenic injuries after colonoscopy underwent splenectomy (6). In the present case there had been another known pathology for surgical intervention.

The present case is the first cases reported from Turkey. In our clinic, 398 patients underwent colonoscopy in the last three years and this is the first case with splenic rupture after colonoscopy.

In conclusion, splenic rupture is very rare but fatal complication of colonoscopy. In the management of patients with post-colonoscopy abdominal pain splenic injury should be kept in mind.

## REFERENCES

1. Castelli M: Splenic rupture: an unusual late complication of colonoscopy *CMAJ* 1986;134:916-7.
2. Levine E, Wetzel LH. Splenic trauma during colonoscopy. *AJR Am J Roentgenol* 1987;149(5):939-40.
3. Tuso P, McElligott J, Marignani P. Splenic rupture at colonoscopy. *J Clin Gastroenterol* 1987;9(5):559-62.
4. Prowda JC, Trevisan SG, Lev-Toaff AS. Splenic injury after colonoscopy: conservative management using CT. *AJR Am J Roentgenol* 2005;185(3):708-10.
5. Daniel Murariu, Sarah Takekawa, Nancy Furumoto. Splenic Rupture: A Case of Massive Hemoperitoneum Following Therapeutic Colonoscopy. *Hawai'i Med J* 2010;69:140-1
6. Singla S, Keller D, Thirunavukarasu P, Tamandl D, Gupta S, Gaughan J, Dempsey D. Splenic injury during colonoscopy-a complication that warrants urgent attention. *J Gastrointest Surg* 2012;16(6):1225-34
7. Volchok J, Cohn M. Rare complications following colonoscopy: case reports of splenic rupture and appendicitis. *J Soc Laparoendosc Surg* 2006; 10: 114-6.
8. Ahmed A, Eller PM, Schiffman FJ. Splenic rupture: an unusual complication of colonoscopy. *Am J Gastroenterol* 1997; 92: 1201-4.
9. Di Lecce F, Vigano P, Pilati S, Mantovani N, Togliani T, Pulica C. Splenic rupture after colonoscopy. A case report and review of the literature. *Chir Ital* 2007;59:755-7.
10. Wherry DC, Zehner H Jr. Colonoscopic fiberoptic colonoscopic approach to the colon and polypectomy. *Med Ann C* 1974;43:189-92.

11. Smith LE. Fiberoptic colonoscopy: complications of colonoscopy and polypectomy. *Dis Colon Rectum* 1976; 19: 407-12.
12. Ong E, Böhmler U, Wurbs D. Splenic injury as a complication of endoscopy: two case reports and a literature review. *Endoscopy* 1991; 23: 302-4.
13. de Vries J, Ronnen HR, Oomen APA, Linskens RK. Splenic rupture following colonoscopy, a rare complication. *Nederlands J Med* 2009 (67);6:230-3
14. Janes SE, Cowan IA, Dijkstra B. A Life threatening complication after colonoscopy. *BMJ* 2005;330:889-90.