Abdominal Wall Hematoma Resulting From Abdominal Pressure Applied During Colonoscopy

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CASE REPORT

Abdominal pressure is commonly used to assist endoscopists during colonoscopies. Principles for the appropriate technique of administering abdominal pressure have been published.1–4 Caution is recommended to prevent injury to the patient because of the abdominal pressure, but until now, no significant injury because of abdominal pressure has been reported.

A 71-year-old woman was referred for therapeutic colonoscopy. Relevant patient history included total abdominal hysterectomy, cholecystectomy, and paroxysmal atrial fibrillation. Significant medications included rivaroxaban 20 mg by mouth daily which was held for 4 days before the procedure. The patient was American Society of Anesthesiology grade III. A 30-mm cecal polyp was removed by piecemeal endoscopic mucosal resection, including use of 10 mL of 1:10,000 epinephrine and methylene blue injection, snare mucosal resection, and argon plasma ablation at 1 L/min and 25 W. Eight ligature clips were used to close the lesion. No bleeding was noted at the end of the procedure. Procedure time was 57 minutes with 25-mg fentanyl and 570-mg propofol administered intravenously. The procedure was noted to be difficult, and successful completion of the procedure was aided by applying significant amounts of abdominal pressure.

In the recovery room, the patient complained of right lower quadrant pain, and another 25 μg of fentanyl was administered. The pain did not resolve, and significant right lower quadrant tenderness was noted. Abdominal plain film showed normal bowel gas pattern without free air. The patient became hypotensive with a blood pressure of 95/50 mm Hg and tachycardic with a pulse rate of 116 beats per minute. In the emergency department, an abdominal examination was remarkable for tenderness, rebounding, and guarding. Laboratory test results showed hematocrit of 19.5%, hemoglobin 6.1 g/dL, platelet of 133 × 10^9/L, international normalized ratio 1.2, and a white blood count of 12.48 × 10^9/L. The patient received 2 units of packed red blood cells. Computed tomography scan without intravenous contrast was significant for a large right abdominal wall hematoma.

Figure 1. Coronal computed tomography without contrast showing large right-sided abdominal wall hematoma (red arrow).

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hematoma centered in the rectus sheath (Figures 1 and 2). Interventional radiology successfully performed microcoil and Gelfoam embolization of the right inferior epigastric artery with hemostasis. The patient was admitted, and because of intermittent dropping, hemoglobin received 2 more computed tomographies and 1 ore interventional radiology angiogram, but without additional need for intervention other than transfusion of an additional unit of packed red blood cells. Rivaroxaban was held for the duration of admission. The patient was discharged after 6 days to a skilled nursing facility.

Abdominal pressure is an important tool for assisting physicians in completing colonoscopies. The risk of injury to patients has been a theoretical risk when using abdominal pressure; however, until now, no case of abdominal pressure resulting in a significant injury to the patient has been reported. Although spontaneous abdominal wall hematoma is possible, the presentation immediately after the prolonged procedure requiring significant amounts of abdominal pressure in the area of the hematoma makes it very likely the cause of the complication. Endoscopists should be aware of the possibility of hematoma formation because of abdominal pressure as cause of decreased hemoglobin after procedure regardless of anticoagulation status and instruct the technician to use care when applying abdominal pressure.

DISCLOSURES

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REFERENCES

1. Prechel JA, Hucke R. Safe and effective abdominal pressure during colonoscopy: Forearm versus open hand technique. Gastroenterol Nurs. 2009;32(1):27–32.
2. Waye JD, Yessayan SA, Lewis BS, Fabry TL. The technique of abdominal pressure in total colonoscopy. Gastrointest Endosc. 1991;37(2):147–51.
3. Prechel JA, Young CJ, Hucke R, Young-Fadok TM, Fleischer DE. The importance of abdominal pressure during colonoscopy: Techniques to assist the physician and to minimize injury to the patient and assistant. Gastroenterol Nurs. 2005;28(3):232–8.
4. Prechel JA, Sedlack RE, Harreld FA, Sederquest MM. Looping and abdominal pressure: A visual guide to a successful colonoscopy. Gastroenterol Nurs. 2015;38(4):289–96.