

Oncology

Late-onset rectal bleeding with hemorrhagic shock after transrectal prostate needle biopsy[☆]Takashi Ando^{*}, Kazuhiro Watanabe, Takaki Mizusawa, Akiyoshi Katagiri

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ABSTRACT

Late-onset rectal bleeding after transrectal prostate needle biopsy is potentially life-threatening. We report the case of a 75-year-old male who presented with severe rectal bleeding 3 days after transrectal prostate needle biopsy. Because the bleeding could not be arrested by conservative treatment, emergent colorectal endoscopic clipping (twice) and elective angiography were performed. Packed red blood cell transfusion (14 units in total) was required to treat the developed hemorrhagic shock. Colorectal endoscopy and arterial embolization are effective treatments for severe rectal bleeding after transrectal prostate needle biopsy and should be performed without hesitation.

Introduction

Severe rectal bleeding, although infrequent, is one of the major complications of transrectal ultrasound-guided prostate needle biopsy (TRUS-Pbx).¹ It typically occurs just after the biopsy, and hemostasis can be achieved immediately using conservative treatment in most cases. Late-onset severe rectal bleeding, which occurs > 2 days after TRUS-Pbx, is relatively rare. However, it can be life-threatening because it typically occurs after hospital discharge. We present the case of a patient with late-onset severe rectal bleeding after TRUS-Pbx with hemorrhagic shock requiring aggressive treatment.

Case presentation

A 75-year-old male with a serum prostate-specific antigen level of 13.1 ng/ml underwent TRUS-Pbx in our department. Eight biopsy cores were collected by the biopsy as the patient received lumbar anesthesia. The patient had a history of cerebral infarction and received low-dose aspirin, the administration of which was stopped 1 week before biopsy. Moderate rectal bleeding, which occurred during biopsy, was arrested by digital compression. A day after biopsy, the patient was discharged, and he resumed his aspirin regimen. Three days after biopsy, he was emergently admitted to our hospital due to severe rectal bleeding (Fig. 1). The bleeding was arrested by digital compression, although his serum hemoglobin level had decreased by 1.5 mg/dl compared with the pre-biopsy level. Rectal bleeding recurred twice with hemorrhagic

shock on the 5th and 16th day after biopsy. Packed red blood cell transfusion (a total of 14 units) was required during this clinical course. On both occasions, emergent colorectal endoscopy was performed, which detected pulsatile bleeding on the anterior rectal wall, and endoscopic clippings were performed each time (Fig. 2). At the last bleeding episode, the patient's blood pressure had decreased to 67/50 mmHg due to the decrease in serum hemoglobin level to 7.3 mg/dl. His pre-biopsy serum hemoglobin level was 13.5 mg/dl; however, it was 9.2 mg/dl after transfusion. Four days after the last clipping, elective angiography was performed. Branches of the superior rectal artery were likely the source of the bleeding; we tried to embolize these branches, which resulted in spontaneous occlusion with thrombus formation (Fig. 3). The rectal bleeding ceased thereafter.

Discussion

TRUS-Pbx is a well-established procedure used to detect prostate cancer worldwide. Although there are risks of several complications, the reported rate of severe rectal bleeding requiring aggressive treatment is relatively low.¹ Most cases of severe rectal bleeding after TRUS-Pbx occur due to unexpected arterial injury on the rectal wall during biopsy. Because this early bleeding occurring at a hospital can usually be treated immediately, this bleeding is not life-threatening. However, because late-onset severe rectal bleeding occurs after hospital discharge, the situation could be life-threatening due to the time lag before treatment is initiated. Several case reports have been published

[☆] TRUS-Pbx, transrectal ultrasound-guided prostate needle biopsy.

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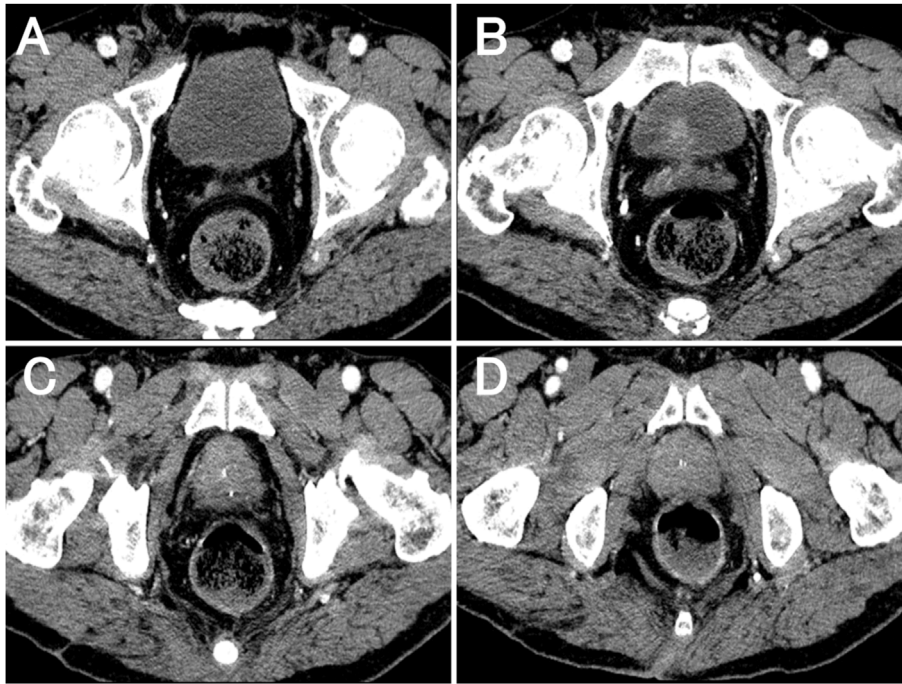


Fig. 1. Abdominal computed tomography. Computed tomography reveals the existence of intra-rectal hematoma and the absence of bladder hematoma or retroperitoneal hematoma. The bleeding source could not be determined. These diagnosis and observations were confirmed at the time of the last rectal bleeding.

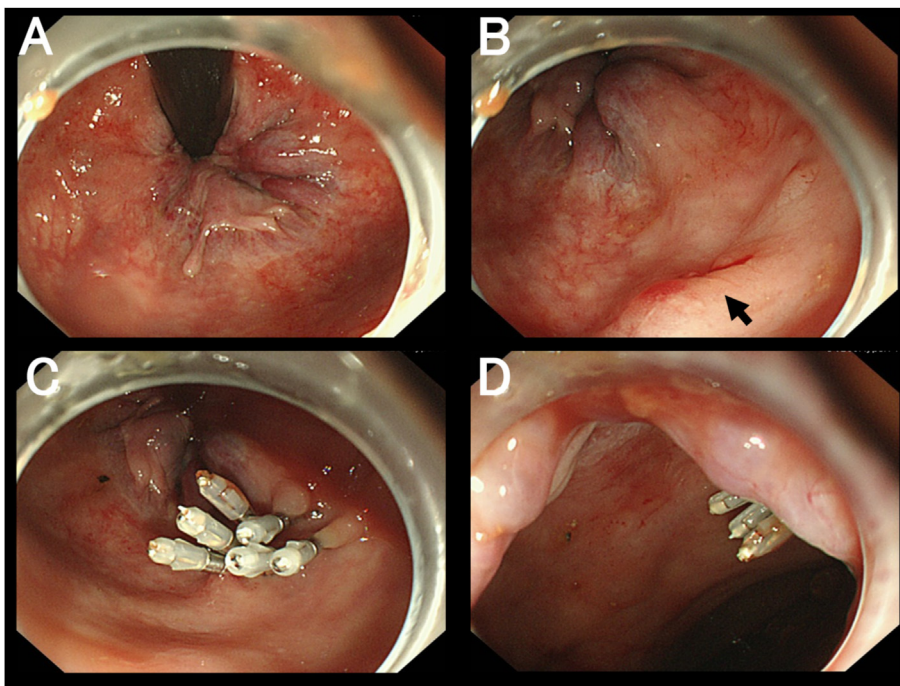


Fig. 2. Colorectal endoscopy. The pectinate line of the anal canal is shown (A). Pulsatile bleeding mucosa is detected on the anterior rectal wall (black arrow) (B). Endoscopic clipping is performed at the bleeding site (C). Hemostasis after clipping is confirmed (D). Bottom parts of figures A–C show the abdominal side of the rectum. During the second colorectal endoscopy, sloughing off of some clips was observed as the same mucosa with pulsatile bleeding was indicated and re-clipping was performed.

regarding patients who required aggressive treatment, including blood transfusion, because of late-onset massive rectal bleeding.^{2–4} Recently, several risk factors for rectal bleeding have been suggested, such as increasing biopsy core numbers, advanced age, poorly controlled hypertension, and constipation, whereas the influence of antiplatelets remains controversial.² Because these risk factors would increase according to the age of patients and the expansion of prostate biopsy indications, a risk of severe rectal bleeding should be considered. Furthermore, appropriate perioperative education of patients regarding the initial response to bleeding is equally important.

Presently, colorectal endoscopy is chosen when conservative

treatment for managing severe rectal bleeding fails.^{2,3} The advantages of colorectal endoscopy are as follows: it can pinpoint the bleeding site and provide an expanded view; it can achieve hemostasis (after pinpointing the bleeding site) immediately using epinephrine injection, clipping, or banding; it can be performed without anesthesia and using antiplatelet or anticoagulation medications. Therefore, colorectal endoscopy is safe and effective in arresting severe rectal bleeding. In our case report, bleeding recurred after the first clipping and sloughing off of the clip before hemostasis while under antiplatelet medication was considered the reason.

Arterial embolization is also effective as an alternative treatment to

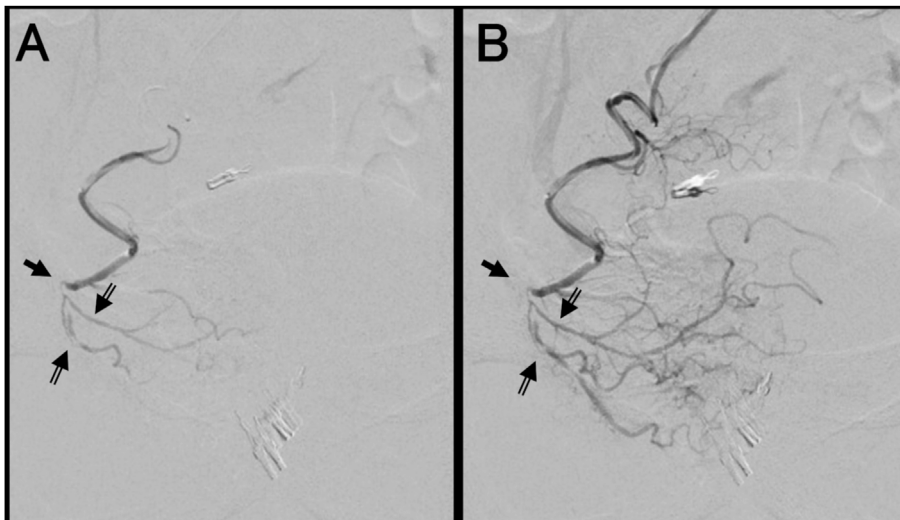


Fig. 3. Angiography. An irregular-shaped bifurcation of the superior rectal artery with strong bending and stricture is indicated (black arrow). Arteries that follow the bifurcation reach toward the bleeding area with endoscopic clips (lined black arrows). At the time of the examination, active bleeding was not indicated, and there was no abnormality of the bilateral internal iliac artery including the prostate artery. Although we tried embolization through the bifurcation, the bifurcation was too narrow for a catheter to pass and was naturally occluded by a thrombus.

control or arrest severe rectal bleeding, although it is invasive and has risks of complications, such as unexpected thrombosis or arterial injury. According to few case reports, angiography could reveal the existence of bleeding or abnormality of the superior rectal artery or prostate artery, resulting in rectal bleeding with or without retroperitoneal bleeding, and arterial embolization could arrest the bleeding.^{2,4,5} Because arterial embolization was advantageous in a patient with retroperitoneal hemorrhage who could not be managed using colorectal endoscopy, it can be stated that arterial embolization is a definitive method for arresting rectal bleeding.

Conclusion

Arterial rectal bleeding is a rare but serious complication of TRUS-Pbx, and it can be life-threatening, particularly when it occurs after hospital discharge. Patients undergoing TRUS-Pbx should be informed of late-onset rectal bleeding. In severe rectal bleeding, colorectal endoscopy or arterial embolization should be performed without hesitation.

Consent

Verbal informed consent was obtained from the patient.

Conflicts of interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.eucr.2018.08.023>.

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