A Case Study of Massive Hemorrhage from Colonic Diverticula Successfully Treated by Transcatheter Arterial Embolization

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Introduction

As one of the causes of gastrointestinal hemorrhage, colonic diverticulum has been on the increase in recent years1. We have encountered a case in which emergency arterial embolization was effective for hemorrhage from cecal diverticulum. This paper is a report of our findings.

Case Report

A 65-year-old male with a history of appendectomy and hypertension suddenly had bloody stool early in the morning of October 30, 2000. Suspected of hemorrhage from the lower digestive tract, he was admitted to our hospital for urgent treatment. On admission, his complexion was slightly pale and anemia was found in the palpebral conjunctiva. The abdomen was flat and soft; the lower abdomen was mildly tender, but muscular defense was absent and no tumor mass was palpable. Hematological examination revealed anemia (RBC: 312 × 10^6/mm^3, Hb: 9.8 g/dl, Ht: 28.6 %) and hypoproteinemia (TP: 5.5 g/dl) but no inflammation (WBC: 4,300/mm^3, CRP < 0.8 mg/dl). After pre-treatment with high pressure enema, emergent colonoscopy was performed. A large amount of fresh blood clots were found, but the site of bleeding could not be identified. As the patient fell into a state of shock during examination, the endoscopic examination had to be given up. As the bloody stool continued, emergency angiography was performed the same day. This examination revealed extravasation and pooling of the contrast medium from the peripheral branch of the ileocolic artery on the medial aspect of the cecum (Fig. 1). Bleeding from the cecal diverticulum was strongly suspected. A catheter was advanced to that part, and arterial embolization was done by coiling. Vasopressin was then injected to confirm disappearance of extravasation. Endoscopic examination of the colon performed 1 week later showed a multiple diverticulum corresponding to the site of hemorrhage in the cecum (Color 1). Ischemic changes associated with embolization were not found in the mucosa around that region. Barium enema examination showed many diverticula in the ascending colon and cecum as well as the coil retained in embolization above the ileocecal region (Fig. 2). It was inferred from these findings that cecal diverticulum was the source of hemorrhage. The patient was discharged improved on the 20th patient day. No hemorrhage has since been found.

Discussion

Bleeding from the colonic diverticulum is arrested by conservative treatment in most cases. Even massive hemorrhage is controlled in a few days in many cases5. However, where bleeding is prolonged, positive hemostatic measures including surgical treatment are necessary. According to the analysis of the cases reported in Japan for past 5 years by Komiyama et al.6, the rate of bleeding from the colonic diverticulum being diagnosed is almost equal for colonic endoscopy 41% and angiography 37%, with the treatment being made up of surgical therapy 41%, endoscopic hemostasis 32% and arterial embolization 23%. Depending on the degree bleeding, it is possible to make a diagnosis by endoscopy and control hemorrhage. In massive hemorrhage as in this case, identifying the site of hemorrhage by colonoscopy is said to be difficult11. By contrast, angiography is the most effective measure to diagnose the point of bleeding in hemorrhage of the entire digestive tract10. In the bleeding from the diverticulum of the digestive tract, the diverticulum, when filled with a contrast medium, can be confirmed as a round, well-defined pooling image of the contrast medium, which enables...
physicians to make diagnosis of bleeding from the diverticulum. Our case too showed patterns of a marked extravasation and round pooling, which are typical findings of hemorrhage from the diverticulum. With the progress of various imaging diagnoses in recent years, indications for interventional radiology (IVR) or application of the technique of imaging diagnosis to treatment have been expanded. As IVR for hemorrhage from the digestive tract, mention can be made of arterial embolization via a catheter and arterial injection of a vasoconstrictor. Arterial embolization via a catheter is said to be a relatively safe surgical technique as it arrests hemorrhage irrespective of the diameter of the bleeding artery and can be used in the patients whose general conditions are poor. However, some complications such as intestinal ischemia and infarction are encountered. In our case, the results were very good. complete hemostasis was achieved and complications including intestinal ischemia were not observed. In recent years, cases of colonic diverticulosis have been on the increase in Japan too. Cases of massive hemorrhage as in our case and cases in which bleeding cannot be arrested conservatively are expected to increase in the future. Emergency arterial embolization is very effective for such cases.

References

大腸憩室出血に対して緊急動脈塞栓術
が有効であった1例

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大腸出血の原因の一つとして、近年、大腸憩室が増加している。憩室位出血の多くが保存的治療で止血するもの、発症する場合には積極的止血処置を必要とする。今回、憩室出血に対し緊急動脈塞栓術が施行した1例を経験したので報告する。症例は85歳の男性で、突然の下血が出現し来院した。緊急大腸内視鏡検査では、新鮮血液凝固塊を大量に認めるものの前変位部は同定できなかった。下血が続き、患者がショック状態となったため、同日に緊急血管造影検査を施行した。上腸間膜動脈造影にて盲腸間隔に囲結腸前動脈末梢枝に出血点が認められ、動脈塞栓術を施行し止血を確認した。後日、大腸内視鏡検査を施行したところ、出血部に一致して多くのが憩室が認められ、憩室出血からの出血と診断した。患者は、第3病日に軽快退院となり、その後も再出血は認めえていない。