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A Rare Complication of Stapled Hemorrhoidopexy: Giant Pelvic Hematoma Treated with Super-Selective Percutaneous Angioembolization

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Abstract

Introduction: Procedure for prolapsed hemorrhoids (PPH) or hemorrhoidopexy is not free from complications, some of which have been described as serious, such as bleeding. This study describes a case of a female patient with post-operative huge pelvic hematoma, successfully treated with percutaneous angioembolization.
Case Presentation: A 76-year-old female underwent PPH, with no intraoperative complications. Few hours later, the patient showed signs of acute abdomen. No external rectal bleeding was identified and vital signs were normal. A computerized tomography (CT)-scan showed a giant peri-rectal and retroperitoneal pelvic hematoma, with signs of active bleeding. A subsequent selective arteriography showed huge bleeding from superior hemorrhoidal artery, treated with super-selective embolization. The procedure was successful and the patient showed a symptomatic improvement. The subsequent hospital stay was uneventful and she was discharged on the ninth post-operative day, with no complications. At the 30-day post-discharge follow-up, the patient was completely pain free with no signs of pelvic discomfort. Control CT scan revealed regression of the pelvic hematoma.
Conclusions: Severe complications may occur after PPH and one of the most important is local bleeding. In the current case, no signs of external active bleeding were noted. Prompt diagnosis with CT scan allowed efficacious non-operative treatment with angioembolization, avoiding the need of reoperation for a potential serious complication.

Keywords: Hemorrhoidopexy, PPH, Bleeding, Hematoma, Angioembolization

1. Introduction

Stapled transanal mucopexy was firstly described by Mario Pescatori for the treatment of mucosal prolapse (1) and then by Antonio Longo for hemorrhoidal disease (2). This method has subsequently been addressed as hemorrhoidopexy or Procedure for Prolapsed Hemorrhoids (PPH) and used as an alternative method to Ferguson and Milligan-Morgan techniques. After its introduction, it has been registered a huge acceptance among the European Coloproctology Community due to the relatively technical simplicity and rapidity and to the good outcomes associated with low postoperative pain and fast recovery (3). However, long-term outcomes have shown a higher recurrence rate for PPH, with respect to traditional operations (4, 5). Moreover, different complications have also been described for this technique (3) and some of them have been reported as severe events, such as, serious bleeding, pelvic sepsis, rectal perforation or occlusion, and recto-vaginal fistula (3, 6, 7). In this article, the researchers describe the case of a huge pelvic hematoma following PPH successfully treated with angioembolization in a female patient with III degree muco-hemorrhoidal prolapse, according to Goligher classification (8, 9).

2. Case Presentation

A 76-year-old female was referred to the Unit for hemorrhoidal prolapse complaining of recurrent anorectal bleeding and pelvic discomfort. She had past history of arterial hypertension and chronic constipation. After colonoscopy, which showed no abnormalities in the whole colon, surgery was indicated. Procedure for Prolapsed Hemorrhoids (PPH) was offered and accepted by the patient. The operation was carried out with PPH-03 stapler kit as usual, with no intraoperative complications. At the end of the procedure, the rectal suture was 4 cm

above the dentate line and it was complete. Additional stitches were placed on the suture line and finally no bleeding points were identified. Then, postoperative endoanal sponge was left. Few hours later, the patient started to complain of acute abdominal pain and pelvic discomfort. On clinical examination, the abdomen was diffusely painful, with signs of abdominal rigidity on the lower quadrants. No rectal bleeding nor other abnormalities were identified. Vital signs were normal and hemoglobin dropp down from 12 g/dL, preoperatively, to 10 g/dL. Since the pain did not regress after strong analgesic therapy, an urgent abdominal and pelvic contrast-enhanced CT scan was performed. The exam showed a giant peri-rectal and retroperitoneal pelvic hematoma (Figure 1A), with signs of active bleeding (Figure 1B). A subsequent selective arteriography showed huge bleeding from the superior hemorrhoidal artery (Figure 2A), treated with super-selective percutaneous angioembolization with cyanoacrylate glue (Figure 2B). The procedure was successful and the patient showed symptomatic improvement. The subsequent hospital stay was uneventful and she was discharged on post-operative day nine, after a control CT scan showed partial regression of the hematoma with no signs of active bleeding. On the 30-day post-discharge follow-up, the patient was completely pain free with no signs of pelvic discomfort. Anorectal examination showed regular stapler line with no prolapse recurrence and a new control CT scan revealed reduction of the pelvic hematoma.

3. Discussion

Postoperative bleeding is the most reported complication after surgery for hemorrhoids, with no particular differences between traditional and stapled operations (10, 11). Hemorrhage in case of PPH often occurs immediately after surgery or alternatively from day seven and it can be caused by arteriolar bleeding along the suture line. For this reason, the procedure is always completed with additional stitches on the stapler line and the use of endoanal sponge, in order to control any hemorrhage (6). In our unit, this is the usual utilized method. Sometimes bleeding can be very important, with the need of urgent reoperation or transfusion, as described by different authors in similar conditions (12-16). Bleeding can be intra or extra-rectal. Intra-rectal bleeding is always easy to identify and treat, often being self-limiting. It originates from venous plexuses or from peripheral arteriolar branches. Extra-rectal bleeding, instead, is not easy to diagnose and it can be very serious due to the massive blood loss without clear external signs. In this case, the first sign can be hemodynamic collapse or signs of acute abdomen, like in the present case. In fact, blood from the extra-rectal area can expand from the ischiorectal fossa and move through the mesorectum and mesosigmoid beyond the limits of the pelvis into the retroperitoneum. This is a very large space where a huge amount of blood can find place causing an important hypovolemia (17). In the current case, blood was collected in this space immediately and caused a giant expanding hematoma with clinical signs of abdominal pain and peritoneal reaction due to the compression of the abdominal cavity. In this case, prompt contrast CT scan confirmed the presence of the hematoma with an active bleeding point. A rapid evaluation by interventional radiologists allowed to ensure non-operative treatment with successful super-selective percutaneous angioembolization of the superior hemorrhoidal artery. This approach immediately stopped bleeding with rapid restoration of hemodynamic stability and symptoms resolution. In effect, super-selective angioembolization has been previously proposed to treat lower gastrointestinal bleeding (18). This approach has also been suggested as an alternative treatment method of hemorrhoidal disease with no prolapse, avoiding direct anorectal trauma (19). In the current case, the immediate bleeding control and clinical resolution of symptoms allowed conservative treatment of the patient, who was strictly observed in the following hours and days. This approach avoided reoperation, which in the most devastating scenario, can lead to ligation of inferior mesenteric artery or low anterior resection (20). Fortunately, conservative treatment allowed successful control of the complication with no need of surgical re-intervention, with subsequent normal clinical evolution. The following radiological controls in fact showed progressive regression of the hematoma and resolution of the clinical syndrome. Obviously, the suture line was also checked trans-anally with no signs of leakage in any time of postoperative and follow-up period.

In conclusion, stapled hemorrhoidopexy can be characterized by serious adverse events. The most important complication is rectal bleeding, which in some cases can be life-threatening. In the current case bleeding from superior rectal artery caused huge pelvic hematoma with clinical evidence of acute abdomen, which was successfully treated with non-operative approach by percutaneous super-selective angioembolization, avoiding the necessity and the risks of reoperation.

Footnotes

Conflicts of Interests: Francesco Ferrara, Paolo Rigamonti, Giovanni Damiani, Maurizio Cariati, and Marco Stella declared that they had no conflict of interest.

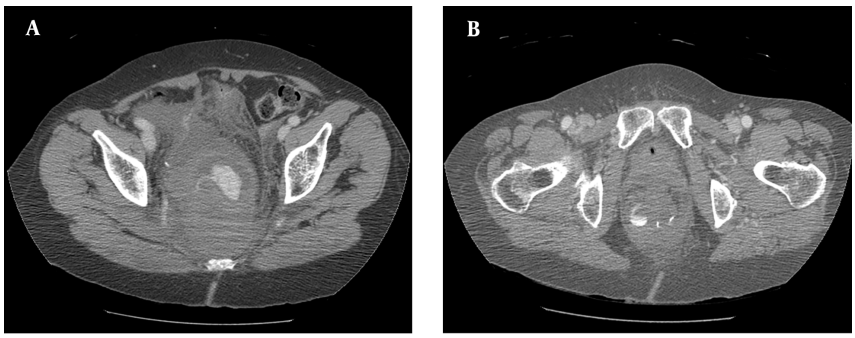

Figure 1. A, Post-operative CT scan: Giant peri-rectal and retroperitoneal pelvic hematoma; B, Post-operative CT scan: Signs of active bleeding

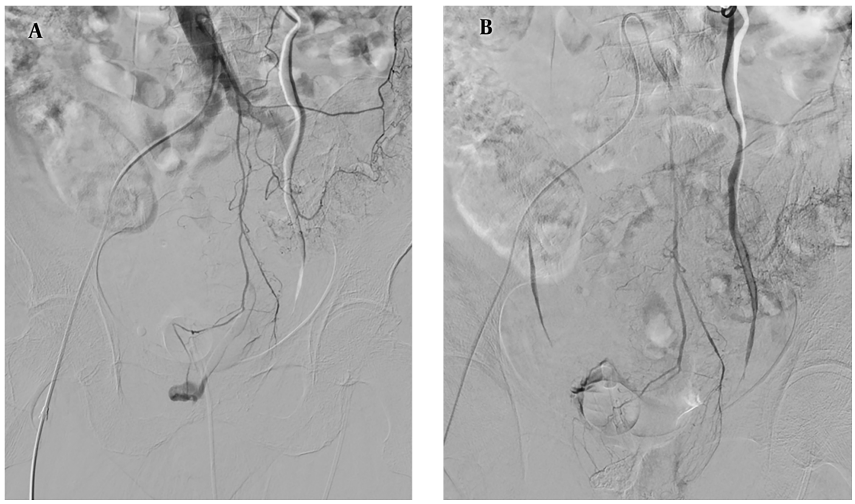

Figure 2. A, Selective arteriography: Bleeding from the superior hemorrhoidal artery; B, Selective arteriography: Super-selective percutaneous angioembolization

Ethical Approval: The procedure performed in this study involved human participants and was in accordance with the ethical standards of the institutional and/or National Research Committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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