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CASE REPORT | ENDOSCOPY

Use of TC-325 Hemostatic Powder as a Rescue Monotherapy for Management of Rectal Variceal Bleed

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ABSTRACT

The use of the endoscopic hemostatic powder TC-325 as a rescue monotherapy or as an adjunct agent in achieving hemostasis has been studied in upper gastrointestinal variceal bleeds and nonvariceal lower gastrointestinal bleeds with promising results. In this report, we describe a case of a successful use of TC-325 as rescue monotherapy to manage rectal variceal bleeding in a patient with alcohol-related cirrhosis with no report of bleeding recurrence and no side effects within the first 7 days, 30 days, or 6 months.

INTRODUCTION

Anorectal varices (ARVs) are common sequelae in up to 90% of patients with cirrhosis and portal hypertension.[1,2] They rarely bleed but can be fatal when they do.[3] Unlike their counterpart, the upper gastrointestinal variceal bleedings (UGIVBs), there have not been any guidelines issued on the management of ARV bleeding.[4,5] Even though the use of the endoscopic hemostatic powder TC-325 (Hemospray; Cook Medical, Winston-Salem, NC), was widely reported in the management of UGIVBs,[6,7] very limited literature exists with regard to its use for lower gastrointestinal bleedings (LGIBs) and specifically for nonvariceal LGIBs (NVLGIBs).[6,8] In this report, we present a rare case of rectal varices bleeding that was controlled by the use of TC-325 as a rescue and monotherapy agent.

CASE REPORT

The patient was an 81-year-old man with alcohol-related cirrhosis diagnosed in 2020, atrial fibrillation anticoagulated with rivaroxaban, hypertension, heart failure, and type 2 diabetes mellitus. He underwent both an esophagogastroduodenoscopy and a colonoscopy in 2020 only remarkable for descending colon diverticulosis with no findings of esophageal, gastric, or/and rectal varices. In mid-2023, the patient presented to the emergency department complaining of progressively worsening painless hematochezia; he was afebrile, denying any abdominal pain, nausea, vomiting. The patient was hemodynamically stable with blood pressure 114/61 mm Hg and heart rate 81 bpm. His hemoglobin was 7.4 g/dL, hematocrit 22.3%, international normalized ratio (INR) 1.9, prothrombin time 22.7 s, activated partial thromboplastin time (aPTT) 34 s, platelet count 112 $\times$ 10^9/L, and blood urea nitrogen/creatinine ratio 26. Abdominal/pelvic computed tomography with contrast did not show any acute intra-abdominal or pelvic abnormality. On the same day, rivaroxaban was held, the patient received normal saline intravenous fluids and transfusions with 2 units of packed red blood cells and 3 units of fresh frozen plasma, and the gastroenterologist was consulted. The patient was also started on oral pantoprazole 40 mg twice daily, lactulose 30 mg 3 times daily, and rifaximin 550 mg oral twice daily. No further hematochezia was reported since admission, and the patient was treated conservatively for possible bleeding diverticulosis.

On postadmit day 4, the patient remained hemodynamically stable with hemoglobin 9.0 g/dL, hematocrit 25.8%, INR 1.2, and aPTT 34 s and thus underwent an esophagogastroduodenoscopy that revealed mild esophagitis and duodenitis and a colonoscopy that revealed few small polyps and large rectal varices (Figure 1) extending up to the rectosigmoid area. One varix within 3–4 cm of the anal verge was found with the stigmata of a recent bleed (Figure 1), which started to bleed again profusely during the colonoscopy, so no banding was attempted, and rescue hemostasis was achieved by using TC-325 as a monotherapy and rescue agent, to allow time

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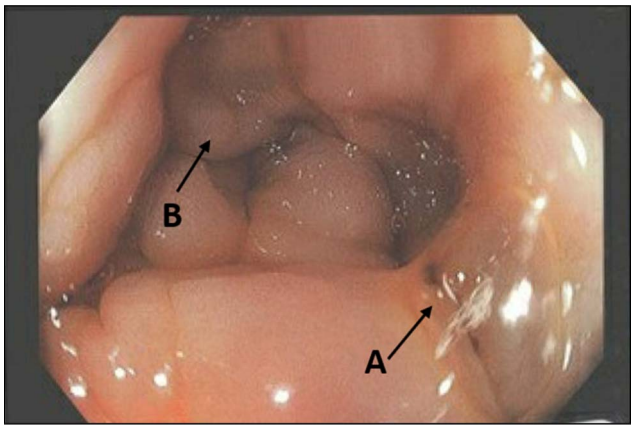

Figure 1. Endoscopic view of large rectal varices: (A) Varix with stigmata of a recent bleeding and (B) another varix with no signs of bleeding.

for bridging toward a more durable solution, if applicable. Seven days after the procedure, the patient remained hemodynamically stable and free of any bleeding recurrence or side effects. The same outcomes remained valid after 30 days and 6 months. As of writing, the patient is alive and has opted for hospice care with comfort care only.

DISCUSSION

Most often ARVs are visible during a colonoscopy; however, when deep, they might be more challenging to localize and visualize; with that, there is no consensus on how to manage their bleeding.[4,9,10] In the absence of specific guidelines, physicians have tried many approaches such as mechanical management with balloon tamponade—as a bridging solution to transjugular intrahepatic portosystemic shunt if indicated—however, rebleeding was almost inevitable.[11,12] Endoscopic procedures, such as injection sclerotherapy, band ligation, and cyanoacrylate glue injection, have been also explored but resulted in up to a 33% rate of bleeding recurrence.[5,13–15] Balloon-occluded retrograde transvenous obliteration transjugular intrahepatic portosystemic shunt or surgery is also an option when applicable.[3,5]

When it comes to TC-325, this powder is hypoallergenic, nontoxic, and metabolically inert, with the ability to form a structural barrier that aborts the bleeding and has proven itself to be effective, inexpensive, and very convenient in achieving hemostasis with an instant hemostasis rate of up to 75%. The data, however, mostly pertains to its use in acute UGIVBs and NVLGIBs and is lacking in ARV bleeding.[6–8,16]

Hussein et al[6] explored the use of TC-325 in NVLGIBs, as a monotherapy, rescue agent, or combination. With 38% of the studied population on either antiplatelets or anticoagulation therapy (as in the case of our patient), the overall hemostasis was immediately achieved in 92% of patients and was further stratified to a rate of 78% and 100% in cases of antiplatelets/anticoagulation therapy and no anticoagulation, respectively. They also reported BR rates of 11% and 21% within 7 or 30 days, respectively, and a 30-day all-cause mortality of 10%. Facciorusso et al[17] also reported in their meta-analysis the use of TC-325 in the management of LGIBs, mainly after polypectomy. They described immediate achievement of a hemostasis rate of 95% (95% confidence interval [CI] 91.6%–98.5%) independent of the TC-325 being used as a monoagent, adjunct, or rescue therapy. They also found BR rates of 10.9% (95% CI 4.2%–17.6%) after 7 days and 14.3% (95% CI 7.3%–21.2%) after 30 days, with only 2.3% (95% CI 0.2%–4.3%) of rebleeding associated death.

When compared with other hemostatic approaches, TC-325 as a monotherapy showed comparable efficacy in achieving immediate hemostasis and reported BR rates. When used as an adjunct to either procedural methods or pharmacotherapy, higher rates of immediate hemostasis and lower rates of BR were observed.[8] However, some limitations have been reported, including the risk of bowel perforation due to a relatively high-pressure carbon dioxide jet as the delivering vector and the theoretical risk of embolization in the case of variceal bleed, and thus, the manufacturer contraindicates on the use in this instance.[18–20]

In conclusion, based on our first and successful experience with TC-325 in the management of an acute ARV bleeding, we believe that the use of this agent should be explored in controlled studies to further validate it as a viable and reliable hemostatic solution for ARVs bleeding management, either alone or as an adjunct/rescue therapy.

DISCLOSURES

Author contributions: A. Tabet Aoul, V. Mupparuju, and J. Cirillo contributed equally in literature review, drafting of the manuscript, and approved the final draft submitted. S. Chandrupatla, J. Jordan, M. Castano, O. Oyesanmi revised the manuscript and approved the final draft submitted. A. Tabet Aoul is the article guarantor.

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