Use of Ankaferd Blood Stopper for controlling actively bleeding fundal varices

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ABSTRACT

Variceal bleeding is one of the most important and life-threatening complications of portal hypertension. Although less common than oesophageal varices that have a lower frequency of bleeding, gastric varices tend to result in more severe and mortal bleeding. The Ankaferd Blood Stopper (ABS) has been used with varying success in recent years for the management of bleeding from skin lesions and after dental surgery, and in other clinical conditions in which conventional haemostatic measures have proved to be deficient. In serious bleeding gastric fundal varices, ABS can also act as a bridge in the absence or unavailability of definitive therapies.

Keywords: ankaferd blood stopper, bleeding, endoscopy, gastric varices

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INTRODUCTION

Gastrointestinal (GI) bleeding from fundal varices is a very challenging emergency that is associated with high morbidity and mortality rates. Management options are limited, ranging from endoscopic treatment with sclerotherapy or tissue glue injection to transjugular intrahepatic portosystemic shunt and surgery. However, each of the abovementioned modalities requires a certain level of expertise, and may not be readily available in less equipped centres. Ankaferd Blood Stopper (ABS), a traditional Turkish plant extract used through the years as a topical haemostatic agent, is a standard mixture of the *Thymus vulgaris, Glycyrrhiza glabra, Vitis vinifera, Alpinia officinarum* and *Urtica dioica* plants.[1] Its mechanism of action involves promoting the formation of an encapsulated protein mesh that acts as an anchor for erythrocyte aggregation without significantly interfering with individual coagulation factors.[1,2] There is a growing body of evidence on the efficacy of ABS in GI system bleeding.[3-7] Presented here is a case of a patient with fundal variceal bleeding that was successfully managed with ABS.

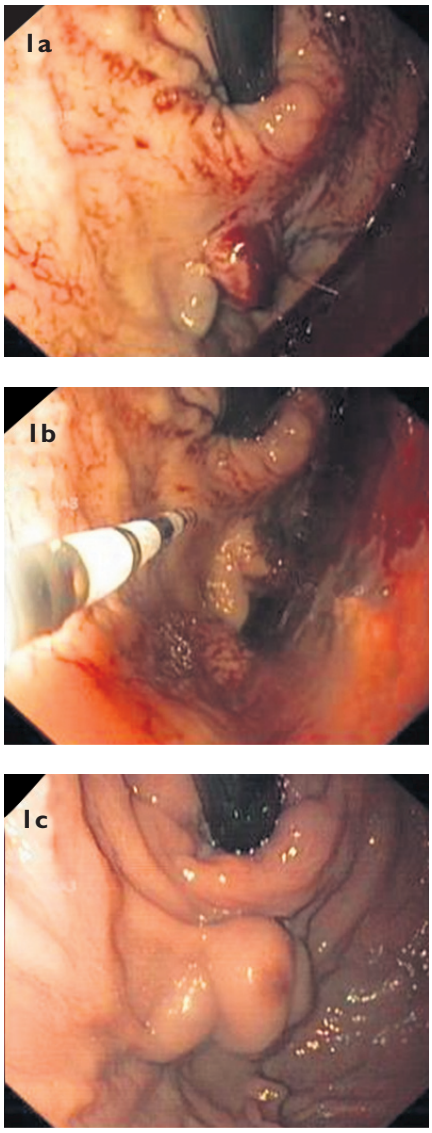

Fig. 1 Endoscopic retroflexed images show (a) the bleeding gastric fundal varix; (b) the fundal varix with Ankaferd Blood Stopper applied; and (c) the appearance of the treated varix two days later.

CASE REPORT

A 61-year-old female foreign national presented with massive haematemesis to a state hospital in Marmaris, Turkey. Physical examination revealed moderate distension of the abdomen, ascites and splenomegaly. Her blood pressure was 130/85 mmHg and her heart rate

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was 84 beats per minute. On admission, her laboratory values were as follows: haemoglobin 9.9 (normal range [NR] 12–16) g/dl, leukocyte count 11,400/mm^3 (NR 4,000–10,000/mm^3), platelet count 128,000/mm^3 (NR 140,000–400,000/mm^3), aspartate aminotransferase 48 (NR 0–33) U/L, alanine aminotransferase 38 (NR 0–40) U/L, γ-glutamyl transferase 154 (NR 0–40) U/L, an international normalised ratio of 1.42 and a creatinine level of 0.7 (NR 0.5–1) mg/dl.

Abdominal ultrasonography showed a liver with heterogeneous echogenicity and irregular borders, ascites and splenomegaly. Oral intake was stopped and an intravenous proton pump inhibitor and somatostatin were administered. Endoscopy revealed oesophageal and tumour-like gastric varices in the gastric cardia and a large volume of fresh blood within the gastric lumen. Active bleeding from the gastric varices was also observed (Fig. 1a). There were no single or multiband ligation system, cyanoacrylate and lipiodol available in the hospital. Informed consent regarding the off-label use of ABS as a means of achieving haemostasis was obtained from the patient. 4 ml ABS was applied topically using a disposable washing pipe that was passed through the instrument channel of the endoscope. The bleeding stopped within 160 seconds (Fig. 1b). The patient's haemoglobin level subsequently stabilised at 9 g/dL without transfusion, and no evidence of continuing GI blood loss was observed. Two days later, upper GI endoscopy showed the gastric varices with a red sign, but no active bleeding was noted (Fig. 1c). Bleeding recurred one day after the control endoscopy. Laparotomy-gastrostomy was performed and the bleeding gastric varix was ligated. The patient was discharged from the hospital for repatriation by air ambulance 19 days after admission.

DISCUSSION

Following an early report by Soehendra et al,[8] international and national guidelines recommend tissue adhesive butyl cyanoacrylate as the first-choice treatment modality for bleeding gastric varices, with a proven success rate of more than 90%.[9] The unavailability of conventional treatment modalities in an actively bleeding, albeit haemodynamically stable patient prompted the off-label use of ABS as an alternative to surgery, although with short-lived success as the patient eventually required surgery.

With governmental approval, ABS is currently available in Turkey and Bosnia-Herzegovina in several forms such as tampons, sprays and ampoules.[1] Several intriguing reports on the efficacy of ABS in controlling acute non-variceal bleeding in the GI tract have recently been published.[3,5,6] Of particular interest is a retrospective evaluation of patients with GI tumours, in which ABS was successfully used to control spontaneous or post-biopsy bleeding.[7]

To date, there is no data reporting the efficacy of ABS on gastric variceal bleeding. Despite being a "forced hand" in our case, we believe that ABS may be helpful as a haemostatic agent in the initial management of the life-threatening condition of active variceal bleeding, at least until conventional modalities are available. However, the true value of this agent needs to be evaluated in a randomised control setting, with particular reference to issues regarding safety. Intravariceal injection of ABS is not recommended, considering that its mechanism of action may result in severe embolic complications.

REFERENCES

1. Goker H, Haznedaroglu IC, Ercetin S, et al. Haemostatic actions of the folkloric medicinal plant extract Ankaferd Blood Stopper. J Int Med Res 2008; 36:163-70.
2. Haznedaroglu BZ, Haznedaroglu IC, Walker SL, et al. Ultrastructural and morphological analyses of the in vitro and in vivo hemostatic effects of Ankaferd Blood Stopper. Clin Appl Thromb Hemost 2010; 16:446-53.
3. Kurt M, Disibeyaz S, Akdogan M, et al. Endoscopic application of ankaferd blood stopper as a novel experimental treatment modality for upper gastrointestinal bleeding: a case report. Am J Gastroenterol 2008; 103:2156-8.
4. Kurt M, Kacar S, Onal IK, Akdogan M, Haznedaroglu IC. Ankaferd Blood Stopper as an effective adjunctive hemostatic agent for the management of life-threatening arterial bleeding of the digestive tract. Endoscopy 2008; 40 Suppl 2:E262.
5. Ibis M, Kurt M, Onal IK, Haznedaroglu IC. Successful management of bleeding due to solitary rectal ulcer via topical application of Ankaferd blood stopper. J Altern Complement Med 2008; 14:1073-4.
6. Kurt M, Oztas E, Kuran S, et al. Tandem oral, rectal, and nasal administrations of Ankaferd Blood Stopper to control profuse bleeding leading to hemodynamic instability. Am J Emerg Med 2009; 27:631.e1-2.
7. Kurt M, Akdogan M, Onal IK, et al. Endoscopic topical application of Ankaferd Blood Stopper for neoplastic gastrointestinal bleeding: A retrospective analysis. Dig Liver Dis 2010; 42:196-9.
8. Soehendra N, Nam VC, Grimm H, Kempeneers I. Endoscopic obliteration of large esophagogastric varices with bucrylate. Endoscopy 1986; 18:25-6.
9. Akahoshi T, Hashizume M, Shimabukuro R, et al. Long-term results of endoscopic Histoacryl injection sclerotherapy for gastric variceal bleeding: a 10-year experience. Surgery 2002; 131(1 Suppl):S176-81.