A rare cause of obscure upper gastrointestinal bleeding: A challenging experience

**Khalid Y. Nabrawi, Saad S. Algahtani, Ahmed Y. Shaheen,
Abdullah M. Alshehri, Mushabab Algahtani,
Mohamed-Elbagir K. Ahmed**

ABSTRACT

Introduction: Liver cirrhosis leads to a serious complication mainly the development of portal hypertension which causes catastrophic consequences namely variceal bleeding, encephalopathy, and hepatocellular carcinoma. Bleeding is commonly caused by ruptured esophageal, gastric, and rarely ectopic varices. We report here a patient with liver cirrhosis who presented with obscure upper gastrointestinal bleeding proved to be due to an ectopic varix.

Case Report: Our patient is a 55-year-old known HCV related cirrhotic man who presented with recurrent melena and hematochezia without abdominal pain. Physical examination was remarkable for pallor, jaundice, and ascites. Following resuscitation, upper endoscopy showed non-bleeding esophageal varices and colonoscopy was unremarkable. Further workup with CT angiography revealed the presence of sub mucosal varix at the level of a small bowel jejunal loop. This was successfully embolized by coiling under ultrasound guidance by the interventional radiologist.

Conclusion: This report refreshes the minds about the proper diagnosis and management of obscure upper gastrointestinal bleeding caused by ectopic varices and emphasizes the important role of the interventional radiologist in this matter.

International Journal of Case Reports and Images (IJCRI)

International Journal of Case Reports and Images (IJCRI) is an international, peer reviewed, monthly, open access, online journal, publishing high-quality, articles in all areas of basic medical sciences and clinical specialties.

Aim of IJCRI is to encourage the publication of new information by providing a platform for reporting of unique, unusual and rare cases which enhance understanding of disease process, its diagnosis, management and clinico-pathologic correlations.

IJCRI publishes Review Articles, Case Series, Case Reports, Case in Images, Clinical Images and Letters to Editor.

Website: www.ijcasereportsandimages.com

CASE REPORT

PEER REVIEWED | OPEN ACCESS

A rare cause of obscure upper gastrointestinal bleeding: A challenging experience

Khalid Y. Nabrawi, Saad S. Algahtani, Ahmed Y. Shaheen,
Abdullah M. Alshehri, Mushabab Algahtani,
Mohamed-Elbagir K. Ahmed

ABSTRACT

Introduction: Liver cirrhosis leads to a serious complication mainly the development of portal hypertension which causes catastrophic consequences namely variceal bleeding, encephalopathy, and hepatocellular carcinoma. Bleeding is commonly caused by ruptured esophageal, gastric, and rarely ectopic varices. We report here a patient with liver cirrhosis who presented with obscure upper gastrointestinal bleeding proved to be due to an ectopic varix. **Case Report:** Our patient is a 55-year-old known hepatitis C virus related cirrhotic man who presented with recurrent melena and hematochezia without abdominal pain. Physical examination was remarkable for pallor, jaundice, and ascites. Following resuscitation, upper endoscopy showed non-bleeding esophageal varices and colonoscopy was unremarkable. Further workup with CT angiography revealed the presence of sub mucosal varix at the level of a small bowel jejunal loop. This was successfully embolized by coiling under ultrasound guidance

by the interventional radiologist. **Conclusion:** This report refreshes the minds about the proper diagnosis and management of obscure upper gastrointestinal bleeding caused by ectopic varices and emphasizes the important role of the interventional radiologist in this matter.

Keywords: Ectopic varix, Gastrointestinal bleeding, Interventional radiology

How to cite this article

Nabrawi KY, Algahtani SS, Shaheen AY, Alshehri AM, Algahtani M, Mohamed-Elbagir KA. A rare cause of obscure upper gastrointestinal bleeding: A challenging experience. Int J Case Rep Images 2018;9(1):16–19.

Article ID: Z01201801CR10870KN

doi: 10.5348/ijcri-201801-CR-10870

Khalid Y. Nabrawi¹, Saad S. Algahtani², Ahmed Y. Shaheen¹, Abdullah M. Alshehri¹, Mushabab Algahtani¹, Mohamed-Elbagir K. Ahmed³

Affiliations: ¹Department of Medicine, Gastroenterology Unit, Aseer Central Hospital, P O Box 34, Abha, Saudi Arabia; ²Department of Interventional Radiology, Armed Forces Hospital, Southern Region, P O Box 101, Khamis Mushait, Saudi Arabia; ³Department of Medicine, College of Medicine, King Khalid University, P O box 641, Abha, Saudi Arabia.

Corresponding Author: Professor Mohamed Elbagir K. Ahmed, Department of Medicine, College of Medicine, King Khalid University, P O Box 641, Abha 61421, Saudi Arabia; Email: mohamedelbagir@live.com

Received: 09 September 2017

Accepted: 25 October 2017

Published: 01 January 2018

INTRODUCTION

Liver cirrhosis is a serious complication of chronic liver disease which is caused by both viral diseases (hepatitis B virus and hepatitis C virus) and non-viral conditions such as alcohol related, autoimmune liver disease, metabolic, and inherited condition. It constitutes the fifth-leading cause of adult deaths and ranks eighth in economic cost among the major illnesses. Its most serious complication is the development of portal hypertension which leads to serious complications namely variceal bleeding, encephalopathy, and hepatocellular carcinoma [1–4]. Bleeding is commonly caused by ruptured esophageal, gastric, and ectopic varices. Ectopic varices are defined as dilated portosystemic collateral veins in locations other than the gastroesophageal region. They account for 1–5%

of all variceal bleeds in patients with intrahepatic portal hypertension and 20–30% of those with extrahepatic portal hypertension (PHT) [5, 6]. Numerous sites have been identified for the occurrence of ectopic varices including 18% in the jejunum or ileum, 17% in the duodenum, 14% in the colon, 8% in the rectum, and 9% in the peritoneum, in addition, to surgical stomas and retroperitoneal sites [7]. Although PHT is the main cause of ectopic varices, other conditions such as surgical procedures involving abdominal organs and vessels, anomalies in venous outflow, abdominal vascular thrombosis, hepatocellular carcinoma, and familial origin are also documented causes [8, 9].

Ectopic variceal bleeding is considered potentially fatal with a high mortality rate reaching 40% in duodenal variceal bleeding [10].

Many therapeutic modalities have been developed, including endoscopic treatments, endoscopic variceal obturation (EVO), endoscopic variceal band ligation (EVL), radiologic interventions such as balloon-occluded retrograde transvenous occlusion (BRTO), transjugular intrahepatic portosystemic shunt (TIPS), and surgery. We report here a patient with a rare cause of obscure variceal bleeding successfully managed by the interventional radiologist.

CASE REPORT

Our patient was a 55-year-old male known to have hepatitis C virus induced liver cirrhosis complicated by hepatocellular carcinoma with portal vein invasion. The patient has history of colonic injury with colectomy and Hartmann's procedure which has been done two years back before presentation. He reported to the emergency unit at Aseer central hospital in Abha, Saudi Arabia complaining of recurrent melena and hematochezia for the past 10 days. There was no abdominal pain, heartburn, or vomiting. Prior to admission to our hospital, he reported to a local hospital where he was resuscitated with 13 unit packed red blood cells and then referred to our hospital. Upon admission, he was restless but fully conscious. The vital signs were as follows: blood pressure of 118/57 mmHg lying, heart rate of 116/min with small regular pulse, respiratory rate of 20/min, and body temperature of 36.6°C.

Head and neck examinations of the patient were unremarkable except for pale conjunctivae and yellowish discoloration of the sclera. His abdomen was soft, distended with positive shifting dullness, and the liver span was 9 cm. Examination of other systems was unremarkable, but the lower limbs showed pitting edema up to his knees. Initial laboratory data were as follow: WBC $11.6 \times 10^9/\mu\text{l}$, hemoglobin 8 g/dl, platelet count 69,000 μl , total bilirubin 14.9 mg/dl (direct 8.6) and albumen 2.1 g/dl. INR was 1.7 with negative hepatitis B markers and positive anti hepatitis C antibodies.

The patient was treated by intravenous fluids, pantoprazole, intravenous octreotide and intravenous ceftriaxone. He was also transfused packed red blood cells. Emergency esophagogastroduodenoscopy revealed the presence of grade 2 esophageal varices but without stigmata of recent bleeding. No bleeding lesion was seen in the stomach or duodenum. Also, no bleeding focus was found at colonoscopy up to the terminal ileum. Computed tomography (CT) angiography revealed the presence of sub-mucosal varix at level of a small bowel jejunal loop (Figure 1).

The decision was to refer the patient to intervention radiologist, because of continuous active bleeding. The patient was transfused 4 units of fresh frozen plasma prior to procedure for correction of coagulopathy. Selective angiography of celiac trunk, superior mesenteric artery, and the inferior mesenteric artery did not reveal any bleeding or A-V shunt. Then CT angiography of the abdomen confirmed the presence of a large varix draining upwards in the superior mesenteric vein. This was embolized under ultrasound guided using coil without any immediate complication (Figure 2).

Figure 1: Computed tomography angiography showing small bowel ectopic varix.

Figure 2: Ultrasound guided coil embolization of small bowel ectopic varix.

Following the procedure, the patient remained stable and maintained his hemoglobin with no recurrence of bleeding. He was discharged from hospital in a stable condition and offered regular follow-up in the gastroenterology clinic when seen 2 weeks later in the clinic, the patient was stable without recurrence of bleeding.

DISCUSSION

Available information concerning ectopic variceal bleeding control is mostly derived from case reports or small case series because of the lack of randomized controlled trials. The largest series ever of ectopic variceal bleeding was reported by Norton et al who reviewed 169 cases [10]. Furthermore, the confirmation of the site and management of ectopic varices require a proper study of the vascular supply and local hemodynamics of the varices using a multidisciplinary approach which involves gastroenterologist, hepatologists, interventional radiologists, and surgeons. However, there is no proven, superior treatment modality for the management of ectopic variceal bleeding [9, 10].

A previous report by Sharma et al. described the experience with a bleeding of duodenal ectopic varices [11]. Moreover, Park et al. published the most recent large series of eight patients with ectopic variceal bleeding treated by different modalities but without radiological intervention [12].

One of the very few reports of ectopic jejunal bleeding varices which is similar to ours was that published by Park et al. However, their patient had liver cirrhosis, but unlike the present one, without any previous abdominal surgery, and was managed by embolization of the jejunal varices via the portal vein [13].

Our patient was finally managed by the interventional radiologist. Hence, the role of interventional radiology becomes vital in patients whose gastrointestinal bleeding remains resistant to medical and endoscopic treatment. Radiology offers diagnostic imaging studies and endovascular therapeutic interventions that can be performed promptly and effectively with successful outcomes. In particular, ultrasound guided intervention provides safe and inexpensive imaging evidence of morphological abnormalities associated with cirrhosis and PH [14]. Also, the presence of portocollateral circulation on ultrasound, computed tomography (CT), or magnetic resonance imaging scan such as recanalized paraumbilical vein, spontaneous splenorenal circulation, and dilated left and short gastric veins, or the finding of a reversal of flow within the portal system, is very specific for clinically significant portal hypertension. Furthermore, computed tomography angiography and nuclear scintigraphy can also help localize the source of bleeding and provide essential information for the interventional radiologist to guide therapeutic management with endovascular angiography and transcatheter embolization [15].

Another area where the interventional radiologist can offer help to control acute variceal hemorrhage refractory to endoscopic and pharmacological treatments is the performance of Transjugular Intrahepatic Portosystemic Stenting (TIPSS). However, being a highly specialized procedure, it requires adequate training, experience, and knowledge of the relevant equipment, anatomy, and how to deal with any complications. It should, therefore, be performed in centers with adequate personnel, multidisciplinary support and equipment required to optimize management and minimize risks [16–19].

CONCLUSION

In conclusion, this report refreshes the minds about the current methods of diagnosis and management of ectopic varices and emphasizes the important role of the interventional radiologist in this matter.

REFERENCES

1. Garcia-Tsao G, Sanyal AJ, Grace ND, Carey W. Prevention and management of gastroesophageal varices and variceal hemorrhage in cirrhosis. *Hepatology* 2007 Sep;46(3):922–38.
2. Garcia-Tsao G, Bosch J, Groszmann RJ. Portal hypertension and variceal bleeding—unresolved issues. Summary of an American association for the study of liver diseases and European association for the study of the liver single-topic conference. *Hepatology* 2008 May;47(5):1764–72.
3. de Franchis R; Baveno V Faculty. Revising consensus in portal hypertension: Report of the Baveno V consensus workshop on methodology of diagnosis and therapy in portal hypertension. *J Hepatol* 2010 Oct;53(4):762–8.
4. D'Amico G, Garcia-Tsao G, Pagliaro L. Natural history and prognostic indicators of survival in cirrhosis: A systematic review of 118 studies. *J Hepatol* 2006 Jan;44(1):217–31.
5. Sarin SK, Kumar CKN. Ectopic varices. *Clinics in Liver Disease* 2012;1:167–72.
6. Akhter NM, Haskal ZJ. Diagnosis and management of ectopic varices. *Gastrointestinal Intervention* 2012;1(1):3–10.
7. Sato T, Akaike J, Toyota J, Karino Y, Ohmura T. Clinicopathological features and treatment of ectopic varices with portal hypertension. *Int J Hepatol* 2011;2011:960720.
8. Lebrec D, Benhamou JP. Ectopic varices in portal hypertension. *Clin Gastroenterol* 1985 Jan;14(1):105–21.
9. Helmy A, Al Kahtani K, Al Fadda M. Updates in the pathogenesis, diagnosis and management of ectopic varices. *Hepatol Int* 2008 Sep;2(3):322–34.
10. Norton ID, Andrews JC, Kamath PS. Management of ectopic varices. *Hepatology* 1998 Oct;28(4):1154–8.
11. Sharma B, Raina S, Sharma R. Bleeding ectopic varices as the first manifestation of portal hypertension. *Case Reports Hepatol* 2014;2014:140959.

12. Park SW, Cho E, Jun CH, et al. Upper gastrointestinal ectopic variceal bleeding treated with various endoscopic modalities: Case reports and literature review. *Medicine (Baltimore)* 2017 Jan;96(1):e5860.
13. Park CW, Kim SH, Yang HW, et al. A case of variceal bleeding from the jejunum in liver cirrhosis. *Clin Mol Hepatol* 2013 Mar;19(1):78–81.
14. Vilgrain V, Lebre C, Menu Y, Scherrer A, Nahum H. Comparison between ultrasonographic signs and the degree of portal hypertension in patients with cirrhosis. *Gastrointest Radiol* 1990;15(3):218–22.
15. Zuckerman GR, Prakash C, Askin MP, Lewis BS. AGA technical review on the evaluation and management of occult and obscure gastrointestinal bleeding. *Gastroenterology* 2000 Jan;118(1):201–21.
16. García-Pagán JC, Caca K, Bureau C, et al. Early use of TIPS in patients with cirrhosis and variceal bleeding. *N Engl J Med* 2010 Jun 24;362(25):2370–9.
17. Henry Z, Uppal D, Saad W, Caldwell S. Gastric and ectopic varices. *Clin Liver Dis* 2014 May;18(2):371–88.
18. Saad WE. Endovascular management of gastric varices. *Clin Liver Dis* 2014 Nov;18(4):829–51.
19. Ramaswamy RS, Choi HW, Mouser HC, et al. Role of interventional radiology in the management of acute gastrointestinal bleeding. *World J Radiol* 2014 Apr 28;6(4):82–92.

Author Contributions

Khalid Y. Nabrawi – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Saad S. Algahtani – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Ahmed Y. Shaheen – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Abdullah M. Alshehri – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Mushabab Algahtani – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Mohamed-Elbagir K. Ahmed – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor of Submission

The corresponding author is the guarantor of submission.

Source of Support

None

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2018 Khalid Y. Nabrawi et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

Access full text article on
other devices

Access PDF of article on
other devices

Edorium Journals: An introduction

About Edorium Journals

Edorium Journals is a publisher of international, high-quality, open access, scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

Invitation for article submission

We sincerely invite you to submit your valuable research for publication to Edorium Journals.

Why should you publish with Edorium Journals?

In less than 10 words: "We give you what no one does".

Vision of being the best

We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day.

Exceptional services

We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

Editorial review

All manuscripts submitted to Edorium Journals undergo pre-processing review followed by multiple rounds of stringent editorial reviews.

Peer review

All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

Early view version

Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

Manuscript status

From submission to publication of your article you will get regular updates about status of your manuscripts.

Our Commitment

Six weeks

We give you our commitment that you will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this commitment by even one day, we will give you a 75% Discount Voucher for your next manuscript.

Four weeks

We give you our commitment that after we receive your page proofs, your manuscript will be published in the journal within 14 days (2 weeks). If we fail to honor this commitment by even one day, we will give you a 75% Discount Voucher for your next manuscript.

Favored author program

One email is all it takes to become our favored author. You will not only get 15% off on all manuscript but also get information and insights about scholarly publishing.

Institutional membership program

Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in publication fees.

Our presence

We have high quality, attractive and easy to read publication format. Our websites are very user friendly and enable you to use the services easily with no hassle.

Something more...

We request you to have a look at our website to know more about us and our services. Please visit:
www.edoriumjournals.com

We welcome you to interact with us, share with us, join us and of course publish with us.

Edorium Journals: On Web

Browse Journals

CONNECT WITH US