Title:
Abnormal submucosal artery mimicking submucosal tumor in the stomach: the invisible threat that lies within

Authors:
De-feng Li, Ben-hua Wu, Li-sheng Wang

DOI: 10.17235/reed.2021.8235/2021
Link: PubMed (Epub ahead of print)

Please cite this article as:

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.
Abnormal submucosal artery mimicking submucosal tumor in the stomach: the invisible threat that lies within

De-feng Li¹, Ben-hua Wu¹, Li-sheng Wang¹

1. Department of Gastroenterology, Shenzhen People’s Hospital (the Second Clinical Medical College, Jinan University; the First Affiliated Hospital, Southern University of Science and Technology)

Correspondence to:
Li-sheng Wang MD, Department of Gastroenterology, Shenzhen People’s Hospital (The Second Clinical Medical College, Jinan University; the First Affiliated Hospital, Southern University of Science and Technology, No.1017, Dongmen North Road, Luohu District, Shenzhen 518020, P. R. China. E-mail: wanglsszrmyy@163.com

Case

A 74-year-old male patient, who complained of abdominal distension for 1 year without previous disease history, was admitted to our hospital. Esophagogastroduodenoscopy (EGD) revealed a submucosal tumor (SMT) in the gastric body (Figure 1A). Endoscopic ultrasound (EUS) showed that there was a hypoechoic mass originating from the muscularis propria (Figure 1B). The patient underwent an endoscopic submucosal dissection (ESD) to remove the SMT upon his decision. A suspected pulsating submucosal artery was found during the ESD procedure (Figure 1C), and severe bleeding occurred when puncturing it (Figure 1D and Video 1). Fortunately, the endoscopic clips were used to stop bleeding, the mucosal defect was closed (Figure 1E), and the patient eventually recovered and was discharged 2 days later.

Discussion

Higuchi. N et al. have reported that four patients with small splenic artery aneurysms mimicking SMTs on the posterior wall of the gastric fundus are confirmed using EUS and computed tomographic angiography (CTA)¹. However, abnormal submucosal arteries mimicking the appearance of SMTs are extremely rare and difficult to confirm on the gastric wall. Although the patient underwent EUS and
Doppler examination, an arterial pulsation signal was not detected in the present study (Figure 1B). Of note, the CTA is commonly not performed for small gastric SMTs. Interestingly, Cao B et al. have found that submucosal tunneling endoscopic resection (STER) is an effective and safe technique for removing gastric SMTs with low complications. It needs to further confirm whether STER helps detect the abnormal submucosal arteries mimicking the appearance of gastric SMTs during the procedure. Therefore, our findings suggested that abnormal submucosal artery should be considered in the differential diagnosis of endoscopically detected gastric SMTs to avoid potentially lethal hemorrhage.

**Financial support**

This work was supported by the Natural Science Foundation of Guangdong Province (No. 2018A0303100024), Three Engineering Training Funds in Shenzhen (No. SYLY201718, No. SYJY201714 and No. SYLY201801), Technical Research and Development Project of Shenzhen (No. JCYJ20150403101028164, No. JCYC20170307100911479, and No. JCYJ20190807145617113), and National Natural Science Foundation of China (No. 81800489).

**Conflict of interest**

The article is not previously published. The authors declare no conflict of interest.

**Author contribution**

Design the study (Ben-hua Wu and Li-sheng Wang)  
Collect the information of the patient (De-feng Li)  
Perform the treatment (Ben-hua Wu and Li-sheng Wang)  
Write and revise the article (Li-sheng Wang)

References

1. Higuchi N, Akahoshi K, Honda K, et al. Diagnosis of a small splenic artery


Figure 1: A, An SMT detected on the gastric body; B, The SMT originating from muscularis propria layer; C, A suspected abnormal submucosal artery was found during the ESD procedure; D, Blood spurted out when a disposable injector punctured the suspected abnormal submucosal artery; E, Endoscopic clips were used to stop bleeding and close the defect.