

CASE REPORT

Prolapsing mucosal fold: largest reported, presenting with major haemorrhage

Sophie H. Einoder^{1,*}, Alice C.M. Thomson², Paul Urquhart³,
and Philip J. Smart^{2,4,5}

¹Monash University Eastern Health Clinical School, Eastern Health, Box Hill 3128, Australia, ²Department of Surgery, Epworth Health, Box Hill, Victoria 3128, Australia, ³Eastern Health, Box Hill, Victoria 3128, Australia, ⁴Gastrointestinal Clinical Institute, Epworth HealthCare, Box Hill, Victoria 3128, Australia, and ⁵The Surgery Centre, Austin Health, Heidelberg 3084, Australia

*Correspondence address. Monash University Eastern Health Clinical School, Level 2, 5 Arnold Street, Box Hill, Victoria 3128, Australia.
Tel: +61-41-757-1779; E-mail: sheinoder@gmail.com

Abstract

Prolapsing mucosal folds are uncommon benign colonic lesions that when inflamed may macroscopically resemble, and be confused with, an adenomatous or hyperplastic polyp. They are usually small and rarely cause symptoms. We report the case of a 55-year-old female admitted to hospital following six episodes of significant rectal bleeding. A colonoscopy revealed a 45 × 12 × 5 mm³ pedunculated polyp in the sigmoid colon. There was no evidence of haemorrhoids, colitis or diverticulosis. The polyp was resected by electrosurgical snare at 40 cm and a resolution clip was used to prevent post-operative bleeding. Histology of the polyp demonstrated a polypoid prolapsed mucosal fold with a core of fibrovascular sub-mucosal tissue and normal overlying mucosa. In an extensive review of available literature, no polyp of this size has been reported.

INTRODUCTION

Prolapsing mucosal folds (PMFs) are uncommon benign colonic lesions that when inflamed may macroscopically resemble, and be confused with, an adenomatous or hyperplastic polyp [1]. Their aetiology is unclear [1, 2]. These lesions are often, but not always, associated with diverticular disease [2, 3], solitary rectal ulcer syndrome or rectal prolapse [4]. Most patients are asymptomatic but can present with gross or occult rectal bleeding, crampy abdominal pain or non-specific changes to bowel habits [1, 4].

Here we report the largest documented PMF in the sigmoid colon, presenting with rectal bleeding.

CASE REPORT

A 55-year-old female was admitted emergently to hospital following six episodes of significant rectal bleeding and one episode of bloody diarrhoea. The patient was otherwise symptomatic. Physical and per rectal examination revealed no abnormalities and the patient was haemodynamically stable. Laboratory testing showed haemoglobin 111 g/L, international normalized ratio (INR) 2.0 and prothrombin time 22.8.

The patient had a past medical history of antiphospholipid syndrome, stroke, pulmonary embolism, deep vein thrombosis, epilepsy and mitral valve replacement therapy. Prior to admission the patient was regularly taking antiplatelet and anticoagulant

Received: October 9, 2018. Accepted: October 28, 2018

Published by Oxford University Press and JSCR Publishing Ltd. All rights reserved. © The Author(s) 2018.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited. For commercial re-use, please contact journals.permissions@oup.com

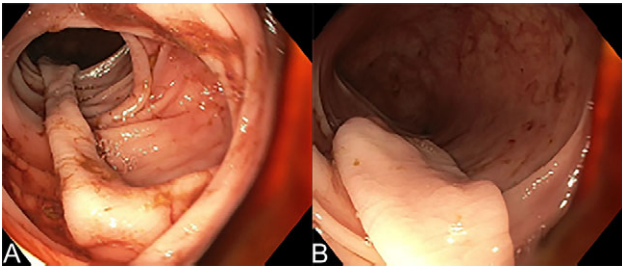


Figure 1: Colonoscopy of the sigmoid colon showing (A) and (B) the long stalk of the prolapsing mucosal polyp in the sigmoid colon.



Figure 2: Resected $45 \times 12 \times 5 \text{ mm}^3$ prolapsing mucosal polyp.

medication (11 mg Warfarin (5 days/week), 12 mg Warfarin (2 days/week) and 75 mg Clopidogrel daily).

On colonoscopy, a $45 \times 12 \times 5 \text{ mm}^3$ pedunculated polyp in the sigmoid colon was found to be the cause of bleeding (Fig. 1). There was no evidence of haemorrhoids, colitis or diverticulosis. The polyp was resected by electrosurgical snare at 40 cm (Fig. 2) and a resolution clip was used to prevent postoperative bleeding. Histology of the polyp demonstrated a polypoid prolapsed mucosal fold with a core of fibrovascular submucosal tissue and normal overlying mucosa.

Due to the patient's medical history, their target INR was 2–3. Warfarin and Clopidogrel were withheld 3 days prior to the colonoscopy and restarted Days 1 and 2 post-procedure, respectively. Bridging enoxaparin 100 mg was prescribed daily until INR >2 was instituted. During the admission the haemoglobin remained stable, INR and prothrombin time trended downwards. No blood products were given during the admission.

DISCUSSION

PMFs were first described in 1985 [3], all lesions in the case series were located in the sigmoid colon and associated with diverticular disease. Despite previous reports, PMFs are not always associated with diverticular disease, solitary rectal ulcer syndrome or rectal prolapse [5]. There are no reported cases where PMFs have evolved into adenomatous polyps or a precursor to colorectal cancer [1]. PMFs are more common in males (3:1) and typically present from 45 to 65 years old [4].

Endoscopically, PMFs can be sessile, pedunculated or broad-based. The polyp head is bright red hyperaemic mucosa with a pit pattern of small erosions on the surface [4, 6]. The pedicle is usually long and paler than the head [5]. The annual tree ring-sign of concentric circular innominate grooves surrounding the lesion is a recently discovered sign that can be used to identify the polyp endoscopically [7]. In an extensive review of available literature, no polyp of this size has been reported. The average

size of reported PMFs were $<10 \text{ mm}$ [1–8]. Endoscopic ultrasonography may also be helpful in distinguishing PMP from malignant lesions [8].

Histology is required to confirm the diagnosis and rule out malignant lesions. The most consistent histological findings for a PMF are glandular crypt abnormalities such as crypt distortion, elongation, hyperplasia and branching, fibromuscular obliteration of lamina propria, splayed and hypertrophied muscularis mucosae and mucosal capillary abnormalities. Haemorrhage and hemosiderin deposition are also common [2, 4, 5]. These characteristics resemble those found in other mucosal prolapsing conditions in the gastrointestinal tract.

LEARNING POINTS

- Prolapsing mucosal polyps are rare and not always associated with diverticular disease, solitary rectal ulcer syndrome or rectal prolapse.
- Histological evaluation can confirm the diagnosis from other potentially malignant lesions.
- Diagnosis of the polyp gave the treating team confidence to re-anticoagulate this high-risk patient.
- A PMF of this size, $45 \times 12 \times 5 \text{ mm}^3$, has not been documented in the literature before.

FUNDING

This study was supported by Epworth Research Institute Major Research Grant No. 11.952.000.80982.

CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest or financial ties to disclose.

REFERENCES

1. Libânia D, Afonso L, Henriques R, Pimentel-Nunes P, Dinis-Ribeiro M. Mucosal prolapse polyp mimicking rectal malignancy: a case report. *GE Port J Gastroenterol* 2015;**23**: 214–7.
2. Kelly JK. Polypoid prolapsing mucosal folds in diverticular disease. *Am J Surg Pathol* 1991;**15**:871–8.
3. Franzin GFA, Manfrini C. Polypoid lesions associated with diverticular disease of the sigmoid colon. *Gastrointest Endosc* 1985;**31**:196–9.
4. Tendler DA, Aboudola S, Zacks JF, O'Brien MJ, Kelly CP. Prolapsing mucosal polyps: an underrecognized form of colonic polyp—a clinicopathological study of 15 cases. *Am J Gastroenterol* 2002;**97**:370–6.
5. Chen TA, Yeh CY, Changchien CR, Tang R. Prolapsing mucosal polyps without prolapse of rectal mucosa—report of 7 cases. *J Soc Colon Rectal Surgeon* 2007;**18**:105–10.
6. Buchman A, Yu-Yang G, Rao S. Mucosal prolapse appearing as a colonic polypoid lesion. *Clin Gastroenterol Hepatol* 2009;**7**: A30.
7. Ninomiya Y, Motowo M. The annual tree ring sign: a new endoscopic finding of mucosal prolapse syndrome. *Gastrointest Endosc* 2013;**78**:657.
8. Yoshina M, Kutsumi H, Fujita T, Soga T, Nishimura K, Kawanami C, et al. Polypoid prolapsing mucosal folds associated with diverticular disease in the sigmoid colon: usefulness of colonoscopy and endoscopic ultrasonography for diagnosis. *Gastrointest Endosc* 1996;**44**:489–91.