



## Dieulafoy Lesion of Rectum: an Uncommon Pathology not to be Missed

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### Abstract

**Introduction:** Dieulafoy lesions of the upper gastrointestinal (UGI) tract are well known. Rectal lesions are less common. We present a case of a rectal Dieulafoy lesion causing significant rectal bleeding, managed successfully.

**Methods and Results:** A case note and literature review was done. An 82-year-old female was referred to the surgeons for management of rectal bleeding. She was treated by medical team for pneumonia; was intubated, ventilated, central venous access gained and on inotropes. She developed fresh per rectal bleeding with clots, leading to haemo-dynamic instability. She underwent an UGI endoscopy, followed by on-table colonoscopy with caecal intubation. Distal blood streaking of the mucosa till 30-35 cms was noted but no blood in the lumen beyond this. A 2-3 mm raised mucosal lesion- Dieulafoy lesion was noted in the rectal mucosa above the dentate line at 5 o'clock with an arterial spurter (Figure 1 and 2). This was over sewn with three 2.0 PDS sutures. This stopped the bleeding completely.

**Discussion:** Dieulafoy lesion of rectum is an uncommon entity that needs to be considered as a cause of lower GI bleeding. It is very vital to visualise the distal rectum and anal canal for the cause of the bleed could be ano-rectal.

**Keywords:** Rectal bleeding; Colonoscopy; Dieulafoy lesion; Diagnosis; Gastrointestinal surgery; Vascular surgery

### Case Presentation

An 82-year-old female was referred to the surgeons for management of per rectal bleeding. She was critically unwell, having been admitted under the general physicians with a one-week history of lower abdominal pain and diarrhoea. Her past medically history included hypertension and recurrent urinary tract infections. Socially she lived on her own, was a non-smoker and a social drinker. She was being treated for urosepsis and acute kidney injury. Markers of inflammation were raised with a leukocytosis of  $16.5 \times 10^9/L$ , CRP of 435 mg/L, Urea of 11.6 umol/L and creatinine of 176 umol/L. The clinical picture was complicated by a possible CAP. She was catheterised and commenced on intravenous fluids and broad-spectrum antibiotics.

Following her initial management, she deteriorated with high-grade pyrexia of 40 degrees, and hypoxia with a saturation of 85% on air, Oliguria of 10ml/hour and hypotension of 73/56 mm/Hg despite aggressive resuscitation. Care was escalated to Intensive care unit, where she was intubated, ventilated, central venous access gained and supported on Inotropes. Based on blood cultures from admission, which grew *Staphylococcus Aureus*, Flucloxacillin and Rifampicin were added.

Day 14 of admission, she developed fresh per rectal bleeding with clots. At this point she was haemodynamically stable maintaining a blood pressure of 110/70 mm/Hg and a pulse of 120 beats per minute. Her abdomen was soft, non-tender with normal bowel sounds. On digital rectal examination fresh blood was noted with a large haemorrhoid at the 7 o'clock position. Bloods showed mild anaemia with an Hb of 94 g/L, platelets of  $319 \times 10^9/L$ , PT of 17.2 secs and APTT of 35.4 secs. With such a large, sudden and fresh PR bleed, initial inclination was towards an upper gastrointestinal bleed. Patient was resuscitated; anticoagulation stopped and was commenced on IV PPIs. An urgent oesophagogastroduodenoscopy (OGD) followed a further deterioration in the patient's condition. Patient was haemodynamically unstable with a blood pressure of 50/38mm/Hg

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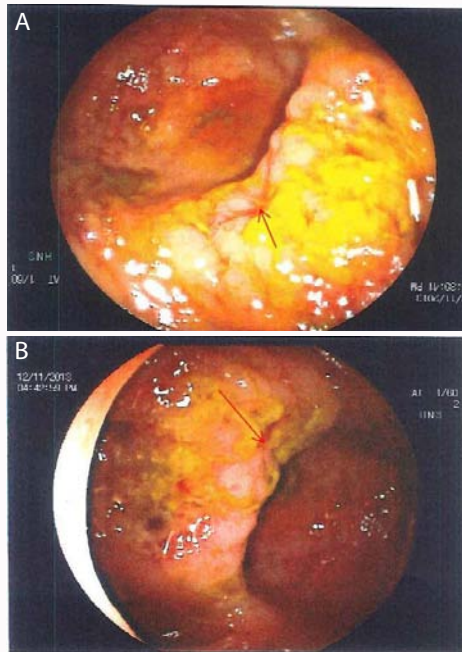
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**Figure 1:** (a) and (b) Rectal Dieulafoy lesion, pointed by the arrow.

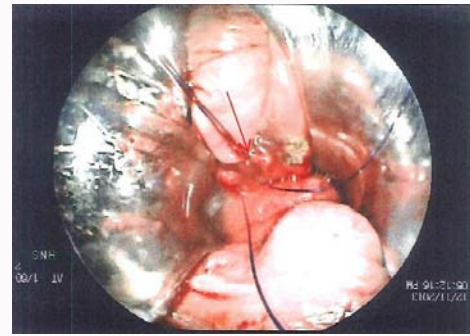
and heart rate of 130 beats per minute. Haemoglobin had dropped to 64 g/L that was brought back with 4 units of blood. Following a normal OGD, a CT angiography was planned. Dictated by the clinical state of the patient, she had to be rushed to Theatres.

Patient underwent an on table colonoscopy reaching the caecum. Some blood streaking of the mucosa till 30-35 cms was noted but no blood in the lumen beyond this. A 2-3 mm raised mucosal lesion-Dieulafoy lesion was noted in the rectal mucosa just above the dentate line at 5'o clock with an arterial spurter (Figure 1 and 2). This was transfixed with three 2.0 PDS sutures followed by the application of two spongostan and surgicel. This stopped the bleeding completely. Post procedure patient was haemodynamically stable and no further immediate bleeds were noted. Five days post the first bleed however patient had a further fresh per rectal bleed where she underwent a flexible sigmoidoscopy and oversowing of the previous anal suture was performed. She had no further bleeds following this.

## Discussion

Acute massive gastrointestinal bleed is often seen in the form of haematemesis, melaena or hematochezia eventually leading to haemodynamic instability [1]. Massive lower gastrointestinal bleeds can be a challenge to manage. It can often be impossible to identify the source of the bleeding despite a wide spectrum of diagnostic tests and it is not unusual for a subtotal colectomy to be undertaken with an end Ileostomy. Attention to detail and suspicion of a possible pathology is vital. An unwary decision would have landed with a major surgery without recognition and management of local rectal pathology.

Dieulafoy lesion is a rare but well-recognized cause of gastrointestinal bleeding. The lesion is a submucosal artery that protrudes through a mucosal defect of the lumen [2]. It most commonly affects the mucosa within close proximity to the gastro-oesophageal junction on the lesser curve of the stomach but can rarely be the cause of massive lower GI bleeds due to lesions at the ano-rectal junctions.



**Figure 2:** Rectal Dieulafoy lesion over sewn with three 2.0 PDS sutures.

Over the years many causes of Dieulafoy lesions have been suggested. It was initially thought to be due to aneurysms in a vessel of the mucosal wall in combination with atherosclerosis [3,4]. It has also been thought to be due to acquired or congenital vascular malformations however over time the general consensus appears to be that it is due to an abnormally large/tortuous submucosal artery at a very close proximity to the mucosal surface which is often visualised on endoscopy [5-7]. The artery can be found to be protruding through a small mucosal defect (2-5 mm) and when ruptured can lead to massive unexpected haemorrhage. Interestingly rectal Dieulafoy lesions have been associated with age, renal disease, burns, liver transplantation and GI stromal tumours [1]. The diagnosis of a Dieulafoy lesion is most commonly made by endoscopy or laparotomy [8]. Endoscopic criteria that defines these lesions are as follows [9] 1) active arterial bleeding from a small (<3 mm) mucosal defect with normal surrounding mucosa; 2) visualization of the protruding artery with or without bleeding within the defect; 3) the presence of fresh, adherent clot attached to a minute mucosal defect or mucosa of normal appearance. Occasionally diagnosis can be made by angiography when initial endoscopy has failed [10-12].

Primarily a digital rectal examination is used to detect anal pathology [11,12]. Urgent oesophagogastroduodenoscopy is vital to rule out upper GI pathology including peptic ulcer disease or varices. Colonoscopy or flexible sigmoidoscopies are vital to determine whether the source of the bleed is proximal to the rectum [11,12]. Submucosal injection of epinephrine is the most commonly described endoscopic technique for achieving haemostasis although it may provide only temporary control of haemorrhage [1]. Haemostatic clips have longer lasting effect than epinephrine and can also be applied endoscopically. Endoscopic band ligation is the treatment of choice for oesophageal varices [13] and has also been used for the treatment of rectal abnormalities including varices and Dieulafoy lesions [13,14].

## Conclusion

Dieulafoy lesion of Rectum is an uncommon entity that needs to be considered as a cause of lower GI bleeding. It is very vital to visualise the distal rectum and anal canal for the cause of the bleed could be ano-rectal.

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