

## Case Report

# Angioembolization of rectal stent induced inferior mesenteric artery pseudoaneurysm

Kaushal Yadav<sup>1\*</sup>, Akash Bansal<sup>2</sup>, Kartar Singh Yadav<sup>3</sup>

<sup>1</sup>Clinical Lead Department of Surgical Oncology, <sup>2</sup>Department of Intervention Radiology, Narayana Superspeciality Hospital, Gurugram, Haryana, India

<sup>3</sup>Shanti Yadav Hospital, Rewari, Haryana, India

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### \*Correspondence:

Dr. Kaushal Yadav,

E-mail: [kaushalyadavoo7@yahoo.com](mailto:kaushalyadavoo7@yahoo.com)

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### ABSTRACT

Bleeding is a lesser-known complication of rectal self-expandable metal stents (SEMS). Most of these bleedings are self-limiting. Life threatening bleeding as a complication of SEMS reported only rarely. In the present paper, we are reporting a rare case of near fatal intraluminal bleeding from rectal SEMS. Traumatic pseudoaneurysm formed in superior rectal branch of the inferior mesenteric artery because of pressure induced by rectal stent. Severe bleeding leads to haemorrhagic shock. Patient was stabilized and angioembolization of pseudoaneurysm with superior rectal branch of inferior mesenteric artery was done. Bleeding stopped post procedure and patient discharged in stable condition. This case presentation highlights the fact that we should decide management strategy for a patient in multidisciplinary meeting and utilize the available resources in best possible ways. Though rectal stents are good alternatives, they have their own set of complications. These should be considered while deciding strategy for the upfront stoma versus rectal stent. For cases as in this article upfront stoma may have avoided the associated complication.

**Keywords:** Colorectal cancer, Malignant intestinal obstruction, Rectal stent, Angioembolization

### INTRODUCTION

Rectal stents have an established roles in malignant bowel obstruction from colorectal cancer in patients who are poor surgical candidates.<sup>1</sup> Recently there is growing concern regarding complications associated with SEMS.<sup>2</sup> SEMS can be associated with serious complications like perforation and death.<sup>3</sup> SEMS can also be associated with potential deleterious cancer related outcomes resulting in increased cytokeratin 20mRNA and carcinoembryonic antigen levels.<sup>4</sup> Life threatening bleeding as a complication of SEMS reported only rarely.<sup>2,5</sup> In the present paper, we are reporting a rare case of near fatal intraluminal bleeding from rectal SEMS induced pseudoaneurysm of the superior rectal branch of the inferior mesenteric artery.

### CASE REPORT

A 43 years' male was a case of metastatic carcinoma rectum. He received palliative chemotherapy with seven cycles of 5-fluorouracil based chemotherapy combination regimen till September 2022. He had disease progression and developed intestinal obstruction and pelvic pain because of constriction caused by rectal growth. Rectal metal stenting was done in November 2022. Following colonic stenting, he received further two cycles of chemotherapy. His pelvic pain increased with symptoms of intestinal obstruction. He underwent a diversion loop sigmoid colostomy in December 2022. Following this, he had relief from symptoms. In January 2023 he presented in emergency with significant bleeding from sigmoid colostomy and per rectal. Supportive measures and blood

transfusion started. CT angiography was done (Figure 1). CT angiography revealed a pseudoaneurysm arising from the superior rectal branch of the inferior mesenteric artery near the superior end of the rectal stent (Figure 2). Angioembolization of the superior rectal artery was done using 50% nBCA (n-butyl cyanoacrylate) glue (Figure 3).

Active bleeding ceased post procedure (Figure 4).

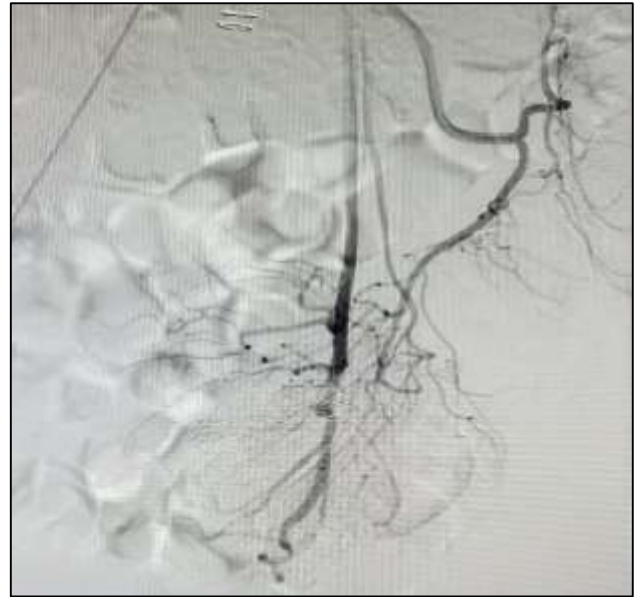
Supportive care was continued and the patient got discharged in stable condition.



**Figure 1: Contrast extravasation from superior rectal artery.**



**Figure 2: Pseudoaneurysm near superior end of SEMS.**



**Figure 3: Angiography pre-embolization.**



**Figure 4: Angiography post-embolization: bleeding stopped.**

## DISCUSSION

Bleeding is a lesser-known complication of rectal SEMS. Most of these bleedings are self-limiting.<sup>2</sup> The present case highlights the importance of careful evaluation and monitoring in the case of SEMS placement. These fatal complications may not occur immediately but may happen at a later period, so attention to patient complaints is very important. In this case problem related to rectal growth was not relieved by stent which may be because of very hard constricting progressive disease. So, patient required diversion colostomy. Stent was completely engulfed by malignant growth. Later, SEMS eroded the posterior rectal wall and exerted pressure injury over the superior rectal branch of the inferior mesenteric artery. It leads to pseudoaneurysm formation. Further injury results in profuse bleeding inside the lumen of the rectum. It

presented as bleeding through the stoma and rectum and hemorrhagic shock as a clinical manifestation. Blocking of pseudoaneurysm and the inferior mesenteric artery was an effective method for bleeding control in this frail patient. The source of bleeding can be identified followed by embolization of pseudoaneurysm and feeding blood vessels.<sup>5</sup> This article highlights the rarely reported life-threatening complications of bleeding from rectal SEMS. Rectal stents are usually safe and life-threatening complications are only rarely reported, around 2.7% mortality.<sup>7</sup> Over a period with improvement in surgical techniques and better understanding; mortality and complications rate reported for surgical diversion colostomy have decreased significantly; around 1% mortality.<sup>8</sup> For rectal stenting; obstruction after successful decompression is also reported in around 30% cases.<sup>9,2</sup> Other significant complications, as documented in various studies, encompass perforation, migration, and pain.<sup>11,12</sup> This article also imposes an important point of taking the advice of a surgeon or surgical oncologist in all cases of intestinal obstruction, so that approach with the least possible complications can be adopted depending upon the overall health of the patient. We also emphasize that such complications should be reported in the literature for future understanding of patient care.

## CONCLUSION

Concerns regarding future complications of the colorectal stent are real and SEMS should be used judiciously. A multidisciplinary approach should be ensured and surgical oncologist opinion should be considered so that a proper approach can be planned in malignant intestinal obstruction depending upon patient profile and disease status.

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