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A CASE REPORT ON THE USE OF SELF-EXPANDING METALLIC STENTS IN THE TREATMENT OF STOMA OBSTRUCTION CAUSED BY ADVANCED COLONIC CANCER

Lee Lee Lai* Lee Lee Lai, BNSc (Hon), MMedSc, University of Malaya, Malaysia, Department of Nursing Science. *Corresponding Author

Gwo Fuang Ho Gwo Fuang Ho, MB BSC, MRCP, FRCS, University of Malaya, Malaysia, Department of Medicine.

Kin Fah Chin Kin Fah Chin, MB ChB, MD, FRCS, Taylor's University, Malaysia, School of Medicine.

ABSTRACT

Patients with advanced colorectal cancer often require palliative care for symptom relief. Bowel obstruction is one of the complications that commonly occur in patients with peritoneal carcinomatosis secondary to advanced colorectal carcinoma. A self-expandable metallic stent (SEMS) has been used widely to relieve large bowel obstruction due to obstructive colon carcinoma. A 51-years-old lady underwent a laparoscopic ultra-low anterior resection for rectal carcinoma with a covering loop ileostomy for a Stage III rectal carcinoma. Having declined an adjuvant chemotherapy, the patient developed recurrent disease 2 years after surgery. She complained of severe abdominal pain associated with abdominal distension and non-productive ileostomy. Computed tomography (CT scan) showed that the patient developed a complete stoma obstruction due to peritoneal carcinomatosis. Endoscopy through ileostomy revealed malignant small bowel obstruction due to a cluster of peritoneal tumours just beyond the abdominal wall. The self-expanded metal stent (SEMS) was inserted at the stomal orifice due to her poor clinical condition, which precluded a laparotomy. Following the self-expandable metallic stent, complete relief of patient's pain and bowel obstruction due to advanced colon carcinoma. Self-expandable metal stent insertion through a stoma could become an alternative treatment option for patients with advanced abdominal carcinoma who otherwise may have to tolerate a poor quality of life with complete bowel obstruction towards the end of their lives.

INTRODUCTION

Many incidences of advanced colorectal cancer patients end up with either a permanent or temporary colostomy. However, obstruction of the bowel and colostomy orifice is a common complication among such patientsą. Depending on the severity of the obstruction, the obstruction can be managed with various methods including endoscopic insertion of the colonic stent, resection of the obstructive lesion followed by reanastomosis of the large or small intestine, refashioning or re-siting of the obstructed colostomy or ileostomy. There is no established management method for malignant stomal obstruction[2–3]. As a result of this, the mortality and morbidity of patients with advanced cancer are high due to poor management of malignant stomal obstruction.

CASE REPORT

A 51 years old Chinese lady presented with a week history of abdominal discomfort and distension. The patient was diagnosed with rectal mucinous adenocarcinoma (Stage T3NOMx, Dukes B) with an umbilical hernia in September 2011. Following a course of neo-adjuvant chemo radiation, she underwent a laparoscopic ultra-low anterior resection with a covering ileostomy in November 2011.

The patient received a course of palliative surgery chemotherapy. However, the patient developed severe diarrhoea and she defaulted follow up. Two years after her primary surgery, the patient complained of abdominal distension and pain. An abdominal and chest CT scan were performed which showed that there were several rounded pulmonary nodules in both lungs consistent with pulmonary metastases. The largest nodule was located in the left hilar region with the dimensions 2.8 cm x 4.4 cm. The small bowel loops were seen to be dilated in the centre of the abdomen with measurement up to 4.2 cm in diameter no evidence of perforation. The right iliac fossa stoma was seen with a tube in situ and there was an obvious obstructing and narrowing of the stoma. There was an advanced malignant tumour in the stromal lumen and the endoscope could not pass through it.

A PET scan in November 2013 confirmed large and more numerous metastases in the lung and the recurrent in the posterior part of the lower right pelvis. The scan also reported several new metastases in the liver, bones, as well as in the metastatic nodes in mediastinum region.

The patient was given a course of FLOX chemotherapy but progressed with worsening abdominal and shoulder pain. Radiotherapy was given to the right scapula and patient was switched to second-line chemotherapy with FOLFIRI and Avastin. The patient responded to the systemic treatment but later developed a severe stoma obstruction due to enlargement of peritoneal nodules at the stoma site (Fig. 1a).

At this point, the use a self-expanding metallic stenting for the alleviation of stoma obstruction was attempted. The patient was placed in supine position under anaesthesia for the procedure. Using a combination and fine bore endoscopy and radiology image guidance a soft tip wire was inserted through the lumen of the small bowel stricture, which was the result of external compression by the peritoneal metastases. Following confirmation of the location of the wire and the length of narrowed segment with a contrast study, the stent was inserted under the guidance of wire and imaging, with the stent deployed in the narrow part of the stoma (Fig. 1b). The self-expanding metallic stent (SEMS) widened the stoma lumen and held its in place (Fig. 1c). The use of self-expanding metallic stents (SEMS) serves as a nonsurgical treatment to relieve the abdominal pain rapidly and effectively due to obstruction. In addition it also maintained the patency of the stoma lumen and prevented the stoma from prolapse (Fig. 1d).

The symptom of obstruction was immediately relieved, and the patient continued to survive for four months free of intestinal obstruction, before succumbing to the liver metastases in 25th May 2014.

The self-expandable metallic stent completely relief of patient's pain and bowel obstruction due to advanced colon carcinoma.

DISCUSSION

Placement of self-expanding metallic stents (SEMS) has been commonly used in the palliative treatment of an acute colonic obstruction due to an unresectable colon tumourą. This improves the quality of life of a terminal illness, which otherwise, may need a laparotomy for the bowel obstruction. Furthermore, it may use as a staged procedure to relieve an acute bowel obstruction in avoiding a temporary colostomy. Following the colonic stenting with a complete decompression of an obstructed colon, an elective colectomy with a primary anastomosis can be performed as a second stage operation after adequate bowel preparation. There was ample clinical evidence to support the use of the self-

expanding metallic stents (SEMS) in relieving the luminal obstruction caused by the advanced malignancies[2–13]. However, there is limited data on the use of self-expanding metallic stent (SEMS) as an alternative and effective therapeutic treatment for patients who developed a luminal obstruction at the site of colostomy due to peritoneal deposits. This case report has shown that the self-expanding stent (SEMS) can not only be placed in the intestine but also at the stomal site. This approach may reduce the immediate mortality and morbidity of with this minimally invasive approach rather than a traditional surgery to either resect the lesion or bypass the obstruction. Stent migration could be a potential complication in the prolonged in situ use of self-expanding metallic stent (SEMS) and the stent tends to re-obstruct the stomal lumen and orifice. Therefore, the use of uncovered and anchoring with sutures at the distal portion of the stent may be effective in the prevention of stent migration.

CONCLUSION

In conclusion, the use of self-expanding metallic stents (SEMS) may be an effective palliative treatment in relieving the stomal obstruction in patients with colorectal cancer by maintaining the patency of the stoma lumen and orifice. On the other hand, it may reduce the patient's abdominal discomfort and distension by regular defaecation.

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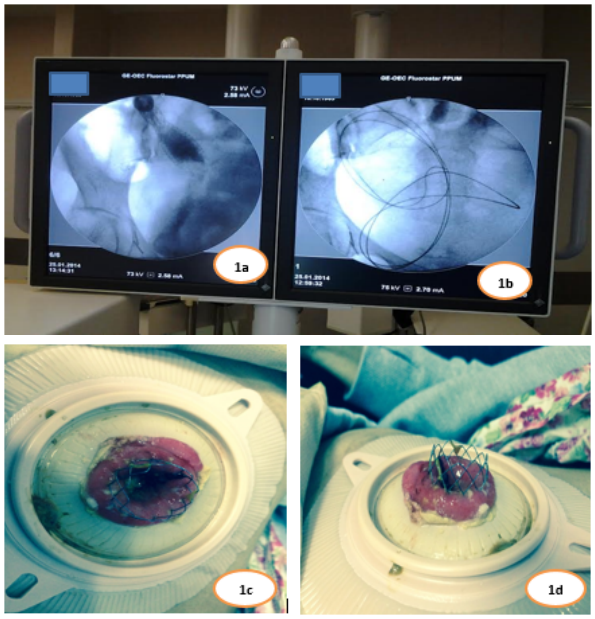

Fig. 1a: Fluoroscopic view showed the stoma obstruction. **Fig. 1b:** Fluoroscopic view showed self-expanding metallic stent is inserted into the narrow lumen of the stoma. Stoma stenting images. **Fig. 1c:** Inferior view of the stoma stent; **Fig. 1d:** Lateral view of the stoma stent.

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