Three cases of endoscopic resection for synchronous early colon cancers after self-expandable metallic stent placement for obstructive colon cancer

Background and study aims: The feasibility of endoscopic resection for synchronous early colon cancer after placement of self-expandable metallic stents (SEMS) for malignant colorectal obstruction is unknown. Herein we evaluated 3 cases of endoscopic resection for synchronous early colorectal cancers after SEMS placement. Patient 1 was an 82-year-old man with obstructive sigmoid colon cancer. We curatively treated the synchronous descending colon cancer with endoscopic submucosal dissection (ESD) and the rectal cancer with endoscopic mucosal resection (EMR) after SEMS placement. This is the first reported case of a successful ESD for synchronous early colon cancer via the use of a colonic stent. Patient 2 was an 81-year-old man with obstructive ascending colon cancer. We resected the synchronous transverse colon cancer via ESD. Histologic findings indicated that the carcinoma cells had invaded the submucosal layer. Therefore, we immediately performed expanded right-hemicolecotmy. Patient 3 was an 81-year-old man with obstructive sigmoid colon cancer. We curatively treated the synchronous transverse colon cancer with EMR after SEMS placement. There were no complications associated with the endoscopic treatments in any of the cases. Our results indicate that preoperative endoscopic resection combined with the ESD technique for synchronous colorectal cancer after SEMS placement could be effective as a surgical strategy for patients with malignant colorectal obstruction.

Introduction

Self-expandable metallic stents (SEMS) are now widely used to treat malignant colonic obstruction [1–3]. In cases involving the bridge to surgery strategy, it is ideal to investigate the entire colon before surgery because the proportion of synchronous cancers in cases of obstructive colorectal cancer is 4% to 6% [4,5]. Several studies have reported the effectiveness and safety of preoperative complete colonoscopy (defined as a total colonoscopy via the use of stents) after SEMS placement [5–7]. Preoperative complete colonoscopy has a great advantage in that, if a synchronous colorectal cancer is found, the surgical strategy can be altered to avoid multiple-stage operations. Although complete colonoscopy after SEMS placement has been recognized to be feasible and safe, the feasibility of endoscopic resection for synchronous early colon cancer (defined as carcinoma limited to the mucosa or submucosa) after SEMS placement is still unknown. If a synchronous early colorectal cancer is resected preoperatively using the endoscopic technique, we can evaluate its pathologic findings precisely and assess the possibility of curatively treating the lesion.

Case Reports

Patient 1
An 82-year-old man underwent SEMS for obstructive sigmoid colon cancer. After successful placement of the SEMS, we performed a scheduled second total colonoscopy and detected 3 synchronous early cancers in the ascending and descending colons and the rectum, respectively (Fig. 1). For the ascending colon cancer, which was a protruding 30-mm lesion (Type 0-IIa [8]), we attempted endoscopic submucosal dissection (ESD); however, we failed to complete the procedure because of severe fibrosis in the submucosal layer. We concluded that right hemicolectomy was needed to treat the ascending colon cancer. The descending colon cancer was a flat elevated 30-mm lesion (Type 0-IIla) and the rectal cancer...
was a protruding 10-mm lesion (Type 0-I), for which we successfully performed ESD and endoscopic mucosal resection (EMR), respectively. The histologic findings were that both lesions were intramucosal carcinoma (pTis) and the margins were free of carcinoma cells. Therefore, we concluded that the descending colon cancer and the rectal cancer could only be curatively treated via endoscopic resection. Our findings indicated the need to perform right hemicolectomy and sigmoidectomy (pT3, pN1, cM0). Histologic findings for the ascending colon revealed that the lesion was intramucosal carcinoma (pTis) with severe fibrosis in the submucosal layer.

**Patient 2**

An 81-year-old man underwent SEMS for obstructive ascending colon cancer. After successful placement of the SEMS, we performed a scheduled second total colonoscopy and detected a synchronous early cancer in the transverse colon (Fig. 2). This mass was undetectable during stent placement because neither colonic preparation with polyethylene glycol nor precise screening for synchronous lesions was possible owing to the emergent obstruction.

For the transverse colon cancer, a flat elevated lesion with a slight depression and a diameter of 15 mm (Type 0-IIa + IIc), we successfully performed ESD. The histologic findings revealed that the lesion included well-differentiated adenocarcinoma cells that had invaded the submucosal layer (pT1b, SM 2200 μm). Although the margins were free of carcinoma cells, we concluded that surgery was necessary. We performed an expanded right hemicolectomy (pT4, pN2, pM1[H1]), including the ESD scar. No cancer cells were detected in the ESD scar.

**Patient 3**

An 81-year-old man underwent SEMS for obstructive rectal cancer. After successful placement of the SEMS, we performed a scheduled second total colonoscopy and detected 2 synchronous tumors: 1 in the ascending and 1 in the transverse colon (Fig. 3). For the ascending tumor, which was a 15-mm flat elevated lesion (Type 0-IIa), we performed EMR and pathologically found that the lesion type was tubular adenoma. For the transverse colon cancer, which was a 20-mm flat elevated lesion (Type 0-IIa), we successfully performed EMR. The histologic findings revealed that the lesion type was intramucosal carcinoma (pTis) and the margins were free of carcinoma cells. Our results indicated the need to perform a low anterior resection (pT4, pN1, cM1).

**Discussion**

In recent years, complete colonoscopy after SEMS placement has been recognized as feasible [5–7]. However, the feasibility of endoscopic resection for synchronous early colon cancer after SEMS placement is still unknown. To date, few reports have described the use of endoscopic resection for synchronous early colon cancer after SEMS placement [5,7]. Lim et al. reported a case...
Fig. 2  SEMS placement in the ascending colon (orange square). We curatively resected the adenoma in the ascending colon (red square) and the early colon cancer in the transverse colon (blue square) with EMR.

Fig. 3  SEMS placement in the ascending colon (blue square). We curatively treated the early colon cancer in the transverse colon with ESD (red square).
In conclusion, preoperative endoscopic resection combined with the ESD technique for synchronous colorectal neoplasms after SEMS placement is thought to be effective as a surgical strategy for patients with malignant colorectal obstruction. However, evaluation of more cases is necessary to assess the safety of these techniques.

Competing interests: None

References