A Case of Lateral Pelvic Lymph Node Recurrence after TME for Submucosal Rectal Carcinoma Successfully Treated by Lymph Node Dissection with En Bloc Resection of the Internal Iliac Vessels

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In Japan, lateral lymph node dissection (LLND) is generally performed for the treatment of T3–4 lower rectal carcinoma, and not for T1 lower rectal carcinoma, because of a low positive rate in patients with T1 lesion. We experienced a rare case of lateral pelvic lymph node recurrence after total mesorectal resection for T1 lower rectal carcinoma, successfully treated by LLND with en bloc resection of the internal iliac vessels. There is no guideline for the treatment of patients with isolated lateral lymph node recurrence; however, surgery should be considered for such patients.

Key words: submucosal rectal carcinoma — isolated lateral lymph node recurrence — surgical resection

INTRODUCTION

Significant impact on survival of lateral lymph node dissection (LLND) for lower rectal carcinoma has been reported, mainly from Japan. Many reports have suggested that a beneficial effect of LLND was achieved in patients with T3–4 lower rectal carcinoma; thus, few surgeons consider T1 as an indication for LLND (1–3). Sugihara et al. (4) reported that lateral lymph node metastasis had been found in only two patients among 42 patients with T1 rectal carcinoma treated with LLND in their retrospective multi-center analysis (2/42, 4.8%), suggesting that LLND should be considered for T3 or T4 lower rectal carcinoma. Currently, in Japan, LLND is not generally performed for treatment of T1 rectal carcinoma.

There are three different patterns of pelvic recurrence of rectal carcinoma including anastomosis, residual mesorectal fat, and the pelvic wall, and it is possible to determine if pelvic wall recurrence is lateral pelvic lymph node recurrence by performing detailed evaluations using computed tomography (CT) and MRI. Generally, if it is judged that pelvic recurrence is resectable, chemoradiation therapy plus surgery is usually indicated. Regarding surgery for pelvic recurrence, total pelvic exenteration or combined sacral resection has to be selected in a significant number of cases (5,6). Although the significance of surgical resection for isolated lymph node recurrence has been reported in several papers, there have been few reports on treatment for isolated lateral pelvic lymph node recurrence, and a general therapeutic strategy for isolated lateral pelvic lymph node recurrence has not been established (7,8).

We experienced a rare case of lateral pelvic lymph node recurrence after TME for T1 lower rectal carcinoma, successfully treated by LLND with en bloc resection of the internal iliac vessels. Isolated lateral lymph node recurrence after TME for T1 lower rectal carcinoma is rare and has not been reported previously in the literature.

CASE REPORT

A 61-year-old man was referred to the Division of Colorectal Surgery, National Cancer Center Hospital, Tokyo, Japan, in December 2003 for the treatment of isolated lateral...
lymph node recurrence after TME for T1 lower rectal carcinoma. He had a past history of lower rectal carcinoma with low anterior resection (LAR) at another hospital in February 2002. Regarding the extent of lymph node dissection, division of the root of the inferior mesenteric artery without LLND had been performed. Macroscopically, the size of the tumor was 20 mm in maximal diameter, and the tumor was diagnosed as for the superficial type. Histopathological findings demonstrated well-differentiated adenocarcinoma, and 12 lymph nodes were harvested, but there were no detectable metastases. The tumor had invaded till the submucosa, but not the muscularis propria (Fig. 1).

Lymphovascular invasion was not identified. No cancer cells were observed in the margin of the resected specimen.

After the operation, periodic follow-up examinations were performed, and in December 2003, abdominal CT demonstrated a 2 cm mass located in the right pelvic cavity (Fig. 2).

While we observed him for several months, no other metastasis was found. The preoperative diagnosis was solitary lateral lymph node metastasis. In May 2004, we performed right LLND with en bloc resection of the internal iliac vessels and pelvic nerve plexus (Fig. 3).

Histologically, 10 lymph nodes were removed and, in one of them, metastasis of adenocarcinoma was found. His postoperative course was uneventful, and he was discharged on the 14th day after the operation. Fortunately, he had neither dysuria nor sexual dysfunction. Postoperative additional chemo-radiotherapy was not performed, because of the patient’s refusal. Forty-four months after the second operation, the patient is alive and recurrence free.

**DISCUSSION**

Isolated lateral lymph node recurrence after TME for pT1 lower rectal carcinoma is rare, and has not been reported previously in the literature. Generally, lateral lymph node recurrence after TME is regarded as systemic disease, and in such cases, chemotherapy, radiotherapy or a combination of both, rather than surgery, is selected. With regard to isolated lymph node recurrence, there are some reports of resected cases (7,8), but the significance of surgical treatment remains unclear; however, this patient underwent surgical resection and has survived recurrence free for 44 months.

It is generally accepted that deep submucosal invasion, the presence of lymphovascular invasion, low grade differentiation, and tumor cell at or near the resection margin after endoscopic resection or local excision are adverse risk factors for lymph node metastasis with submucosal invasion (9–13).
Additionally, Kikuchi et al. (9) reported that tumor location in the lower third of the rectum promotes lymph node metastasis more often. Although histopathological finding of the present case demonstrated deep submucosal invasion without lymphovascular invasion, it was difficult to predict lateral lymph node recurrence based on this initial histopathological finding. However, there is a possibility that the sentinel lymph node was located in the lateral area (14).

As mentioned above, many clinical studies from Japan have suggested that a beneficial effect of LLND was achieved in patients with T3–4 lower rectal carcinoma; thus, few surgeons consider T1 as an indication for LLND (1–3). However, in reports by Western researchers on the site of recurrence after TME for advanced rectal carcinoma, as the incidence of lateral lymph node recurrence was low, they concluded that the benefit of LLND is limited (15,16). A randomized controlled trial (RCT) on the efficacy of prophylactic LLND is currently ongoing in Japan in patients with advanced lower rectal carcinoma without obvious pre- and intra-operative lateral lymph node metastasis (17). This study is receiving attention as an RCT performed by surgeons with sufficient accumulated experience in LLND.

In contrast, for patients who have lateral lymph node metastasis at the time of initial operation, or for patients with isolated lateral lymph node metastasis after TME, no therapeutic strategy has been established. Although lateral lymph node metastasis is regarded as distant metastasis in TNM classification, it is regarded as local disease in Japan (18). In our hospital, if there is no finding of metastasis/recurrence in other regions and LLND is not difficult to perform, then LLND is considered.

With regard to en bloc resection of blood vessels, it goes without saying that there is a fear of increased risk of complications; however, from the oncological viewpoint, even if the tumor does not invade blood vessels through the capsule of the lymph node, the risk of tumor cell spillage is increased if the dissection cuts into the lymph node capsule, even to a slight degree. We have reported the favorable effect of LLND with en bloc resection of the internal iliac vessels on local control in patients with lateral pelvic lymph node metastasis from lower rectal carcinoma (1). A particular aspect of en bloc resection of the internal iliac vessels is that it does not require revascularization. For lymph node recurrence near blood vessels, and if en bloc resection of the vessels requires revascularization with artificial vessels, it should be performed only if it can be justified after considering the risks associated with surgery.

In conclusion, we report the first case of lateral pelvic lymph node recurrence after TME for pT1 lower rectal carcinoma, successfully treated by lymph node dissection with en bloc resection of the internal iliac vessels. Patients with isolated lateral lymph node recurrence treated with surgery might have a favorable long-term prognosis. Therefore, for such patients, surgery is one of the choices. On the other hand, in patients with pT1N0 lower rectal carcinoma, we may rarely experience lateral lymph node recurrence, but occasionally, pelvic recurrence including anastomotic recurrence. Although lateral lymph node recurrence was detected in the present case, we are not insisting that LLND is necessary during the initial surgery for patients with T1 lower rectal carcinoma, because of the low positive rate (4); however, follow-up examinations of the pelvis should be performed periodically.

Conflict of interest statement

None declared.

References