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Combined laparoscopic abdomino-endoscopic perineal total mesorectal excision for anorectal malignant melanoma: A case report

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ABSTRACT

INTRODUCTION: This report presents a case of anorectal malignant melanoma treated with combined laparoscopic abdomino-endoscopic perineal total mesorectal excision.
PRESENTATION OF CASE: An 82-year-old female presented with hematochezia. Colonoscopy revealed a 5-cm tumor in the anorectal junction, and biopsy specimen showed malignant melanoma. Modified ransanal total mesorectal excision was performed to get the sufficient surgical resection margins. After lymph node dissection in usual manner, mobilizing the rectum to the level of levator ani muscle. Then a skin incision was made around the anus and the transperineal access platform was placed. The fat tissue of the ischioanal fossa was divided until the levator ani muscle was exposed. The oral side of the colon was transected and specimen was extracted through the perineal incision site. Then stoma was placed laparoscopically.
DISCUSSION: This procedure provides not only better exposure of the extralevator surgical field, but also efficient resection margins compared with the conventional andominoperineal resection.
CONCLUSION: To the best of our knowledge, this is the first report of combined laparoscopic abdomino-endoscopic perineal total mesorectal excision for anorectal malignant melanoma. Our experience showed safety and feasible option for anorectal malignant diseases.

1. Introduction

Anorectal malignant melanoma is an extremely rare malignancy that is thought to arise from melanocytes in the mucosa around the anorectal junction. Anorectal malignant melanoma has been shown to result in poor prognosis, and conventional treatment is a complete surgical resection of the tumor for local control of the disease [1].

Recently down-to-up transanal total mesorectal excision (TaTME) for rectal cancer has been demonstrated [2]. This approach provides better exposure of the surgical field compared to the conventional perineal approach of abdominoperineal excision of the rectum. In line with the SCARE criteria [3], we report our experience with a case of combined laparoscopic abdomino-endoscopic perineal total mesorectal excision for anorectal malignant melanoma.

2. Presentation of case

The patient was an 82-year-old female with no history of melanoma, complained of hematochezia. There was no significant past medical history except for hypertension and diabetes mellitus. Digital rectal examination revealed a hard mass in the anal canal. She underwent a colonoscopy, which revealed a pigmented neoplasm arising at dentate line (Fig. 1). A biopsy of the mass demonstrated malignant melanoma with positive stains in immunohistochemistry for melan A, HMB-45 and protein S-100 (Fig. 2). Prognostic tumor markers for melanoma, Ki-67 expression was observed about 20%. A computed tomography (CT) of chest, abdomen and pelvis demonstrated the mass at the anorectal junction, with no evidence of lymph nodes or distant metastases (Fig. 3). In general, surgical excision is considered as a primary treatment option for anorectal malignant melanoma. Abdominoperineal resection is regarded as the standard operation for anorectal malignant melanoma because it can control lymphatic spread and guarantee safety resection margins for local control. From this point of view, we performed combined laparoscopic abdomino-endoscopic perineal total mesorectal excision for anorectal malignant melanoma. The procedure started with the laparoscopic transabdominal part of the dissection according to total mesorectal excision principles and high tie with central liga-

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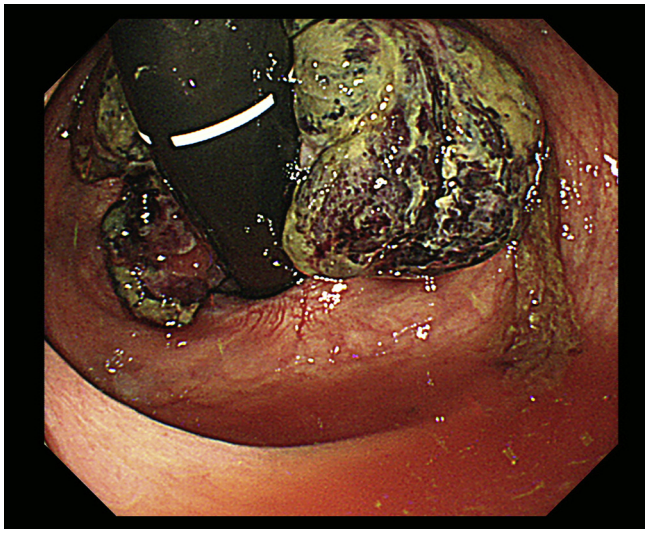

Fig. 1. Colonoscopy revealed a pigmented neoplasm arising at dentate line.

tion of the inferior mesenteric artery. Then a skin incision was made around the tightly closed anus, and a multiport deivice was placed. Transperineal dissection was achieved in the down-to-up direction under endoscopic visualization. The fat tissue of the ischioanal fossa was divided until the levator ani muscle was widely exposed. The sigmoid colon was transected with end linear stapler and the specimen was extracted transperineally. Finally permanent colostomy creation was performed laparoscopically (Fig. 4). The operation time was 373 min and blood loss was 150 ml. There were no significant postoperative complications. The histological examination of the resected specimen showed the tumor invaded through the perirectal tissue at anorectal junction. But there was no tumor invasion of resected margin (Fig. 5). There were no metastases in the lymph nodes. At the 9-month follow-up, liver, lung and paraaortic lymph node metastases were documented on CT scan. Best supportive care was initiated.

3. Discussion

Anorectal malignant melanoma of the anus and rectum is an extremely rare malignancy with a poor prognosis. The overall 5-year survival rate is 4–31% even if radical resection and chemotherapy are performed, while median survival varies from 16 to 28 month [1,4]. Although the typical treatment is surgical resection, there are no established procedures related to the area of resection and lymph node dissection. A number of studies claim that abdomoinoperineal resection is the treatment of choice because it can control lymphatic spread better and obtain wide safety margins for local control [4,5].

Recently advances in minimally invasive surgery have led to the development of many novel surgical techniques. TaTME technique is to achieve experience in this novel surgical approach, especially in low rectal cancers, as the technique will potentially improve the surgical and oncological outcome in selected cases [2,6]. Narrow pelvises and giant tumors have been proven to lead to surgical difficulties and incease the risk of non-curative resection. Based on these considerations, the concept of TaTME procedure has been provided safety resection margins under better visualization. However, this procedure has the disadvantages of technical difficulties associated with its limited maneuver and lack of anatomical landmarks [7]. New accesses also confer the potential for new complications, especially during any early experience. Therefore, in our case, we performed modified TaTME that combined laparoscopic abdomino-endoscopic perineal total mesorectal excision. This procedure is considered to be a useful technique because it can avoid the anatomical misunderstanding of TaTME by preceding the usual abdominal method [8]. It provides not only better exposure of the extralevator surgical field, but also safety resec-

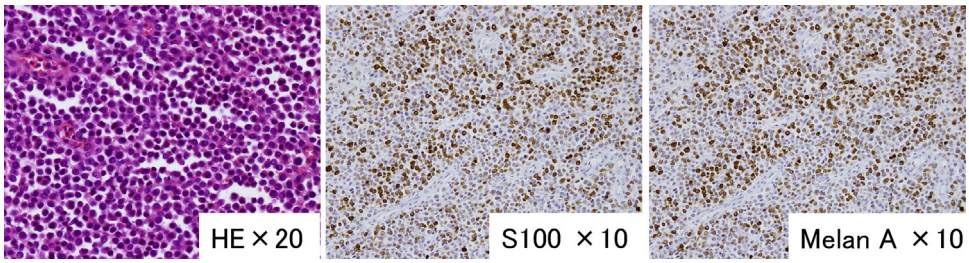

Fig. 2. A biopsy of the mass demonstrated malignant melanoma with positive stains in immunohistochemistry for melan A, HMB-45 and protein S-100.

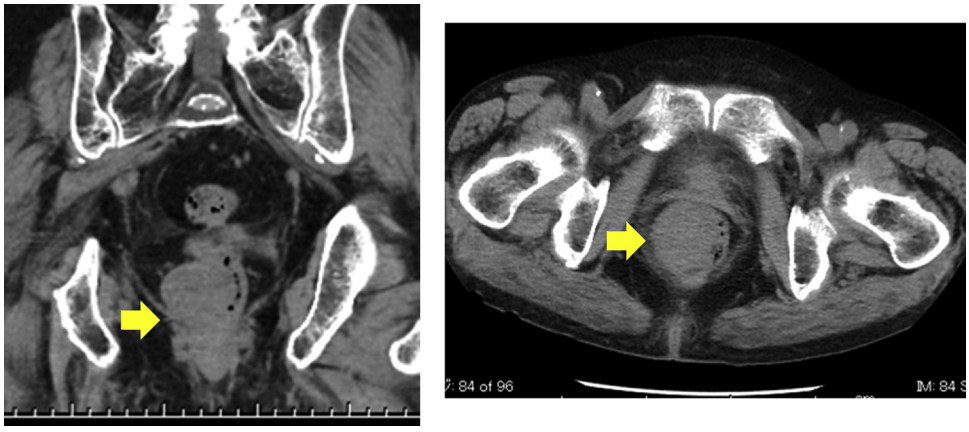

Fig. 3. A computed tomography of the pelvis demonstrated the mass at the anorectal junction, with no evidence of lymph nodes or distant metastases. (Yellow arrow).

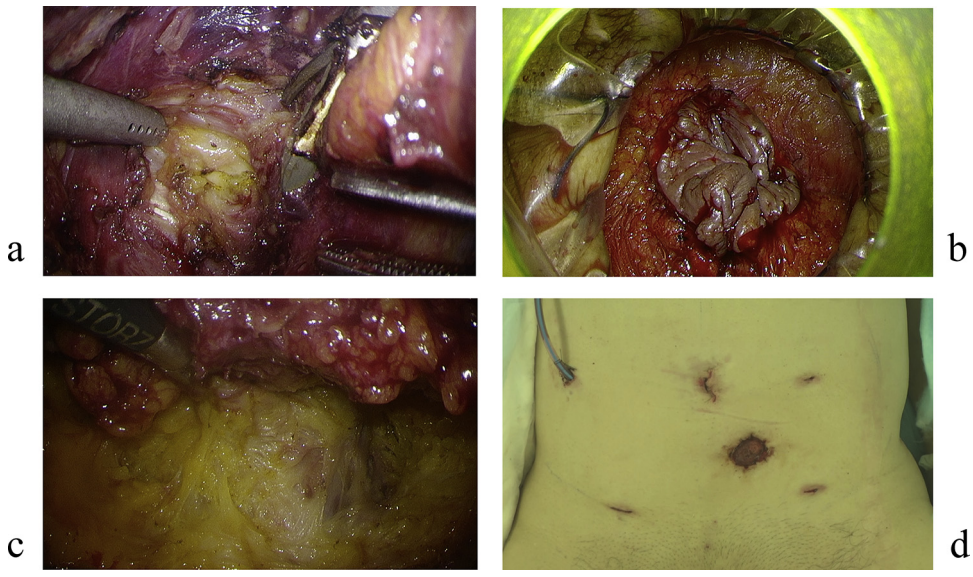

Fig. 4. The procedure started with the laparoscopic transabdominal part. After lymph node dissection was performed, mobilizing the rectum to the level of levator ani muscle laparoscopically (a). Then a skin incision was made around the tightly closed anus, and a multiport deivice was placed (b). Transperineal dissection was achieved in the down-to-up direction under endoscopic visualization(c). Finally permanent colostomy creation was performed laparoscopically (d).

Fig. 5. The resected specimen showed the tumor invaded through the perirectal tissue at anorectal junction.

tion margins compared with the conventional abdominoperineal resection. Furthermore, it is possible to avoid serious complications, such as injury of the pelvic nerve plexus, urethra and vaginal wall, associated with the perineal approach. To the best of our knowledge, this is the first report of combined laparoscopic abdomino-endoscopic perineal total mesorectal excision for anorectal malignant melanoma. It is expected to be a safe surgical procedure by standardization of this procedure with the accumulation of cases.

The prognosis of anorectal malignant melanoma is very poor due to its aggressive characteristics. Adjuvant therapies such as radiotherapy, chemotherapy and targeted therapies are administered in a number of cases, but due to rarity of the disease, randomized controlled trials have not been conducted to evaluate the additional benefit of these treatment mobilities [9]. In our case, because of the elderly patient, adjuvant therapy was not introduced. Recently, there have been dramatic changes in chemotherapy for malignant melanoma. Molecular targeted anticancer agents, such as antibody against programmed cell death protein-1, antibody against cytotoxic T-lymphocyte antigen 4, and a B-Raf inhibitor, have been introduced for the treatment of malignant melanoma [10–12]. However, because of the indication for these chemotherapeutic agents is advanced or recurrent malignant melanoma, there is no indication in this case that can curatively resect. Early diagnosis and a tailored, multidisciplinary treatment plan would be improved the treatment result of anorectal malignant melanoma.

4. Conclusion

Combined laparoscopic abdomino-endoscopic perineal total mesorectal excision showed a feasible option for anorectal malignant diseases. In addition, adjuvant therapies also should be considered as well as complete surgical resection in anorectal malignant melanoma.

Conflicts of interest

The authors declare they have no conflict of interests.

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Ethical approval

This case report was approved by the committee of our institute.

Consent

Written informed consent was obtained from the patient.

Author contribution

Ryo Ohta – Author, Editing of manuscript.
Takahiro Inoue – contributor.
Manabu Goto – contributor.
Yuji Tachimori – contributor.
Koji Sekikawa – contributor.

Guarantor

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