



Isolated Drain Site Metastasis After Open Resection in Ileal Adenocarcinoma—an Uncommon Site

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Abstract

Although port site implants have been described after laparoscopic resection for gastrointestinal malignancies, drain site metastasis in solid intra-abdominal tumor after open resection is a rare phenomenon. Only few cases have been reported in literature describing drain site metastasis after open resection for carcinoma in the colon, stomach, cervix etc. Isolated drain site metastasis is even rare. To our knowledge, drain site recurrence after laparotomy for ileal cancer has not been published. We report a 50-year-old gentleman who had undergone laparotomy and ileal resection for distal ileal adenocarcinoma presented with an isolated drain site metastasis after 1 year of completion of chemotherapy.

Keywords Drain site metastasis · Open resection · Ileal adenocarcinoma · Contaminated instrument · Cutaneous metastasis

Introduction

Cutaneous metastasis is rare in solid intra-abdominal tumors [1]. Although trocar site implants have been described after laparoscopic resection for gastrointestinal malignancies, literature regarding drain site metastasis in open surgery is sparse. To our knowledge, no case report on drain site recurrence after laparotomy for ileal carcinoma has been published. We report a case of isolated drain site metastasis after laparotomy for ileal carcinoma.

Case Report

A 50-year-old gentleman, a known case of Crohn's disease for 10 years on regular treatment, was diagnosed with carcinoma distal ileum in September 2015 for which he underwent segmental resection and anastomosis. Biopsy was non-mucinous adenocarcinoma, grade 2, moderately differentiated, pT3N1M0, and he received adjuvant chemotherapy (12 cycles of FOLFOX). After a disease-free interval of approximately 1 year, he developed pain in the right hypochondrial region

with a vague lump of size 3 × 4 cm. CEA was normal. CECT (Fig. 1a) and PET-CT (Fig. 1b, c) showed an isolated deposit in the right parietal wall with SUV max of 4.3. FNAC was non-diagnostic. A provisional diagnosis of isolated parietal wall metastasis was made, and the patient was planned for staging laparoscopy. On staging laparoscopy, there was no evidence of metastasis elsewhere, and hence proceeded with wide local excision of parietal wall lesion and overlay meshplasty. Intraoperatively, a 3 × 3-cm soft tissue lesion was present in the area of previous drain site involving the entire thickness of parietal wall, without involvement of skin and parietal peritoneum. The final histopathology was Non-mucinous adenocarcinoma, grade 2, moderately differentiated. The case was discussed in multidisciplinary tumor board and was decided for close follow-up.

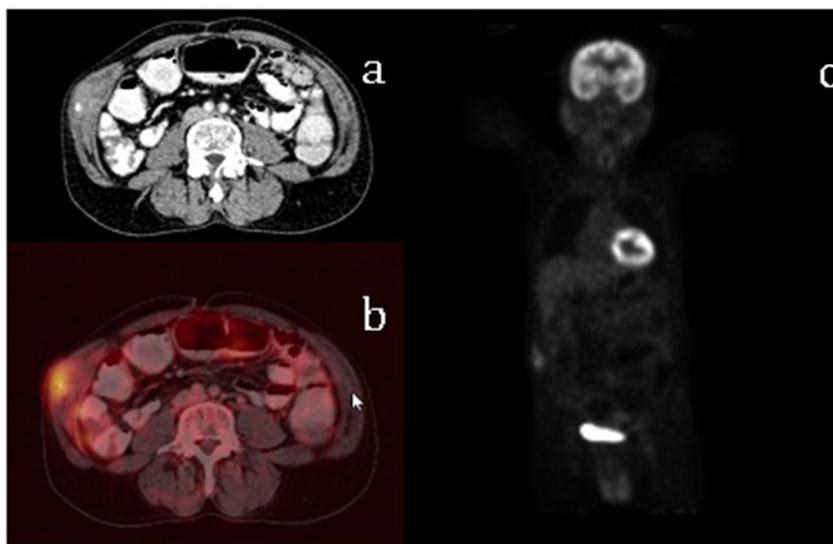
Discussion

Ileal adenocarcinoma is a rare aggressive tumor with mean survival of 20 months [2]. Most of the patients present with advanced stage and isolated drain site metastasis and cutaneous metastasis have never been reported in literature. So, we need to extrapolate the data on colorectal cancer in this regard. Cutaneous metastasis in colorectal carcinoma has been studied and is found to be 2.3 to 6% [1]. In a retrospective series of 1603 patients with colorectal cancer by Hughes et al., 11 patients (0.8%) had recurrence at drain site or laparotomy

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Fig. 1 **a** Contrast-enhanced CT showing deposit in right parietal wall. **b, c** PET-CT showing the isolated parietal wall deposit



incision site [3]. In another prospective study by Reilly et al., the wound site recurrence was found to be 0.6% [4].

Multiple hypothesis is there explaining the possible mechanism for metastatic spread to the drain site. Although hematogenous and lymphatic dissemination has been suggested, tumor cell seeding along a drainage tube or tumor cell growth through the formed tract is more likely. Another possible mechanism is by contaminated instruments used for drain insertion. However, factors affecting occurrence of drain site metastasis is not studied much.

Apart from stage of the tumor, one factor seems to influence is the type of surgery. The incidence of trocar site recurrence after laparoscopic surgery is 1.1–1.4% which is higher than reported for wound recurrence after open resection [5]. As contamination is a probable cause of drain site metastasis, excessive bowel manipulation during surgical maneuvers may contribute. But, in a prospective study comparing the non-touch technique and conventional technique of colonic resection, there was no difference [6].

The drain site metastasis is usually identified by clinical examination. They usually present as subcutaneous nodules or cutaneous ulceration. Other sites of metastasis have to be ruled out by CECT abdomen or chest or ideally by PET-CT.

There is no standard treatment described for isolated drain metastasis in literature. One issue is whether it has to be considered as local recurrence or solitary metastasis. Wide local excision of the lesion should be done in both cases. Controversy exists regarding the adjuvant treatment. If it is considered as isolated drain site metastasis, adjuvant chemotherapy should be the norm as it predicts increased tendency to spread elsewhere. Whereas in a completely resected local recurrence, the role of adjuvant chemotherapy is less. In the absence of disease elsewhere, a patient presenting with isolated drain site disease should be treated with wide local excision alone as chemotherapy can be reserved for further disease progression.

There is no data regarding the prognosis of isolated drain site metastasis in ileal cancer. But, there is some data on the survival of cutaneous metastasis in colon cancer. Survival after cutaneous metastasis diagnosis varies from 1 to 34 months, and the average survival is 18 months [7].

Conclusion

Isolated drain site metastasis after open surgical resection in ileal adenocarcinoma is very rare. Although the exact mechanism is not known, this case underlines the importance to avoid contaminated instruments and gloves during drain insertion and closure.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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