



Case Report

A Case of Simultaneous Resection of Recurrent Colorectal Liver Metastases as part of Colorectal Cancer Treatment Journey

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Abstract

Combining systemic treatments with liver resection in patients with colorectal liver metastases has been proven to be successful in delivering favorable survival outcomes. We describe a 68-year-old man who underwent six cycles of chemotherapy before developing recurrent colon cancer with liver metastases. Prior to this, he underwent a Hartmann's procedure for obstructive malignant rectal cancer. Shortly after the initial procedure, he underwent a Hartmann's reversal. Imaging revealed locoregional recurrence with increased CEA as well as metastatic lesions in segments 4b and 8 of the liver at the time of recurrence. After a complete multidisciplinary evaluation, the simultaneous resection of the liver metastasis and the bowel recurrence was carried out without incident, and adjuvant therapy was then administered. This case report detailed the patient's experience with many chemotherapy treatments and an early recurrence of CRLM, followed with surgical resection of recurrent primary and liver metastasis. As part of multidisciplinary therapy, we propose that simultaneous excision of the recurring bowel location and the liver metastases offers the potential for superior care.

Keywords: Cancer Treatment; Chemotherapy; Colorectal Liver Metastases; Patients

Introduction

Treatment of CRLM has become increasingly challenging as more treatment approaches, including medical, radiological, and surgical treatments, become possible, either alone or in combination. The optimal timing of surgery in case of CRLM is still debated. Most surgeons typically preferred a staged approach, with initial colorectal resection followed by liver resection after 2-3 months. Simultaneous resections, on the other hand, can be effectively performed in

some individuals, with perioperative outcomes comparable to staged resections. Here, we present a case of recurrent colorectal liver metastases in which we devised a multidisciplinary treatment plan for a better prognosis [1-3].

Case Presentation

A 68-year-old male with a history of post resection of rectosigmoid adenocarcinoma presented to the hematologic-oncology clinic in December 2020 for routine check-up after having his last chemotherapy 6 months before. He had no complaints of any abdominal pain, nausea, vomit, or bloody stool. His medical history was significant for hypertension, benign prostatic hyperplasia, and stroke. He was first diagnosed with colorectal cancer in April 2019. At that time, he came to the clinic, he had complaints of abdominal pain and bloody stool for 3 days. He underwent abdominal ultrasound that revealed an irregular, focal, asymmetrical thickening of sigmoid colon approximately 46 mm long, therefore the doctor recommended a contrast-enhanced abdominal CT scan and endoscopy. The contrast-enhanced abdominal CT scan revealed an enhancing mass in the lumen of sigmoid colon. The mass was circular shaped, irregular, originate in the submucosa, muscularis and partially subserosa layer

that extends for 2.86 cm. Laboratory investigation demonstrated a CEA level of 21.15 ng/ml (0 - 3 ng/ml). Based on the results of radiological and laboratory examinations, laparotomy Hartmann's procedure was performed and the patient was given 6 cycles chemotherapy of 5-fluorouracil-folinic acid from May until August 2019. In September 2019, the patient came for routine check-up and prepared for reversal of Hartmann's procedure. The contrast-enhanced abdominal CT scan was performed which revealed no signs of local recurrence, abnormal dilatation, thickening of the bowel wall, or any mass between intestines, but there was a 5 mm cyst in segment 8 of the right liver lobe and a hypodense nodule, poorly defined with 1,35x1,25x1,1 cm in size in segment 4b of left liver lobe. Laboratory investigation showed a CEA level of 6.4 ng/ml (0 - 3 ng/ml). The patient received 6 cycles of FOLFOXIRI chemotherapy until December 2019, and then he underwent reversal of Hartmann's procedure in January 2020 after the third contrast-enhanced abdominal CT scan showed no abnormalities in intra-abdominal organs. Since the surgery, the patient had no complaints of any symptoms and was planned to receive another 3 cycles of FOLFIRI chemotherapy from March until June 2020.

Physical examination revealed that he was awake, alert and oriented. He had stable vital signs and no sign of acute distress. His abdomen was soft, symmetric, and non-tender without distention. The aorta was midline without bruit or visible pulsation. Umbilicus was midline without herniation. Bowel sounds were present and normoactive in all nine quadrants. No masses, hepatomegaly, or splenomegaly were noted. The patient underwent laboratory examination which revealed CEA levels of 44.59 ng/ml with indirect bilirubin level of 0.28 mg/dL. A contrast-enhanced abdominal CT scan was performed for further investigation. A 8 mm heterogeneously enhancing nodule was identified in segment 8 of the right liver lobe and also a hypodense nodule with 3,5 x 2,8 x 3 cm in size in segment 4b of left liver lobe. Given the laboratory results and abdominal CT Scan findings suggestive of a possible liver metastasis, colonoscopy procedure was performed which revealed annular mass, fragile, tend to bleed at 18 cm from anocutaneous line, causing luminal narrowing, and suspect of malignancy. In the context of clinical history, laboratory investigation, radiologic examination, and colonoscopy findings, the diagnosis of recurrent colorectal cancer with liver metastases was made. The patient was consulted to the gastrointestinal and hepato-biliary-pancreatic surgery department and underwent simultaneous laparotomy resection of colorectal liver metastases followed by 6 cycles of FOLFIRI adjuvant chemotherapy (Fig. 1).

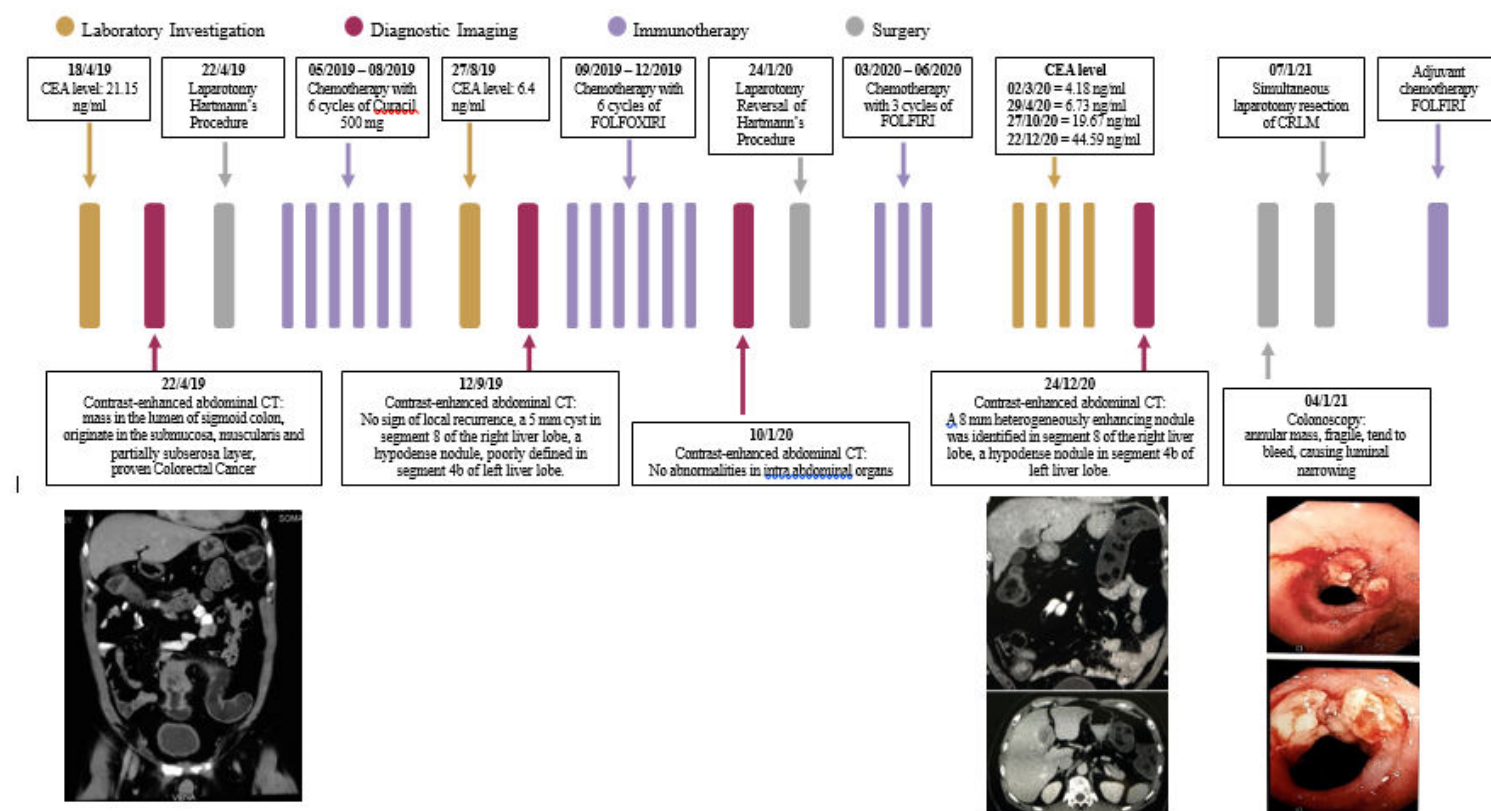


Figure 1: Timeline of treatment course and response.

Discussion

Recurrent CRLM in this patient was diagnosed 11 months after Hartmann's reversal. He was taking his final chemotherapy six months before the diagnosis, and the CEA levels were routinely evaluated, with all of the results being unremarkable. In a retrospective study from Tunisia, 188 patients with rectal adenocarcinoma underwent curative resection, with 53 patients developing recurrence during the follow-up period. This study showed the recurrence rate was 44.6 % after five years. This study also discovered four independent criteria related with the probability of recurrence after curative surgery, one of which was degree of parietal invasion. T1 and T2 tumors had a mean Recurrence Free Survival (RFS) of 92 months, whereas T3 and T4 tumors only had a mean RFS of 56 months [4]. Another retrospective study from Pakistan, included 72 patients underwent resection of colorectal cancer, with 28 patients experiencing early postoperative recurrence within 2 years. This study revealed that age more than 60 years ($p=0.031$) and the removal of fewer than 12 lymph nodes ($p=0.003$) during surgery were significant predictors for early postoperative recurrence. Both of these characteristics were present in our case study [5].

The outcome for CRC has been improving in recent years. Several treatment strategies have the ability to improve the prognosis of CRC patients. These include closer follow-up following resection, earlier detection of metastatic disease, and developments in chemotherapy regimens. Surgical resection remains the treatment of choice for colorectal liver metastases. Since unnecessary prolonged chemotherapy treatment might lead to increased liver toxicity and higher surgical morbidity, resection of metastases should be performed as soon as the metastases are technically resectable [6-8].

Therapeutic strategies in patients with resectable CRLM have been widely debated. Traditionally most surgeons prefer a staged approach with initial colorectal resection followed by liver resection after 2-3 months. However, simultaneous strategies may be safely performed in selected patients if the colorectal lesion is uncomplicated and the number of liver metastases is limited, similarly with the present case. Simultaneous strategies are believed could avoid a second surgical procedure and the risk of interval progression of liver disease, and also could initiate earlier administration of adjuvant chemotherapy [7].

After simultaneous CRLM resection, the patient was scheduled to receive adjuvant chemotherapy of FOLFIRI. Adjuvant chemotherapy is used to minimize recurrence and prolong survival after curative resection. In the case of CRLM, the role of adjuvant chemotherapy is more debatable. Existing evidence suggests that this approach only improves DFS but not OS [8]. The role of perioperative chemotherapy in patients with resectable CRLM was explored in one randomized study, the European Organization for Research and Treatment of Cancer (EORTC) 40983. Patients were randomly assigned to receive either perioperative chemotherapy and surgery or surgery alone. Patients in the perioperative chemotherapy group (25%) had a greater risk of perioperative complications than those in the only surgery group (16%), but had a better three-year progression free survival (36.2% vs 28.1%). There were no significant differences in OS observed between cohorts [9].

In a recently published phase III trial in Japan (JCOG 0603), researchers analyzed the efficacy of post hepatectomy adjuvant chemotherapy compared to hepatectomy alone for patients with resectable CRLM. A total of 300 patients were randomly assigned to one of two groups. Patients who received adjuvant chemotherapy had a considerably better 5-year DFS than those who only had surgery. However, there was no difference in 5-year OS between those groups ($p=0.42$). Half of patients from this trial had reported some neuropathy symptoms, with 10% of patients having severe neuropathy [10]. According to the most recent ESMO guidelines, there was no strong evidence supporting the use of adjuvant chemotherapy in patients who had resectable CRLM since the beginning [11].

Conclusion

In summary, this case report showed a patient journey through early recurrence of CRLM, multiple chemotherapy treatment and simultaneous resection of recurrent primary and liver metastasis. It is clear that multidisciplinary therapy offers the best possibility of providing better care, including concurrent removal of the liver metastasis and the site of the recurrent bowel along with urgent adjuvant therapies.

Conflict of Interest

The authors have no conflict of interest to declare.

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