Tuberculosis nearly preventing a curative resection for colorectal liver metastasis: A case report

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Abstract Perihepatic lymph node involvement portends a poor prognosis, and is reported to be the most important prognostic factor following R0 resection of colorectal liver metastases. Tuberculous lymphadenitis is one of the common presentations of tuberculosis and is often diagnosed only after histopathological confirmation. In this patient, a frozen section revealing tuberculosis in the perihepatic nodes allowed us to proceed with the curative liver resection.

Keywords Tuberculosis · Liver metastasis

Introduction

Peri-portal lymph node metastasis is known as one of the most significant prognostic factors after liver resection for colorectal metastasis. Hepatic nodal involvement indicates the progression of disease beyond simple liver metastases and may negate a survival benefit if a simple hepatic resection is performed [1]. Macroscopic hepatic lymph node involvement is usually a contraindication to hepatic resection [2]. Microscopic confirmation has often been used when the diagnosis is in doubt.

Tuberculosis has been known to present very much like cancer, or even complicate neoplastic diseases [3]. Tuberculosis remains an elusive disease, even in developing countries where the suspicion is high.

This is a case, where a timely confirmation differentiating tuberculosis from a metastasis permitted the appropriate intervention.

Case report

A 57-year-gentleman underwent a low anterior resection for sigmoid carcinoma in November 2005. Operative findings were a 5×4 cm exophytic growth 12 cm from the anal verge with no gross visceral or peritoneal metastasis. Histopathology revealed a moderate to well differentiated adenocarcinoma involving the entire thickness of bowel wall with free proximal and distal surgical margins. The excised lymph nodes were free of tumor, however, the perinodal fat showed tumor deposits. The tumor was staged as Duke's C and he subsequently received 6 cycles of chemotherapy with 5-FU and Leucovorin.

The patient remained on regular follow up. In September 2007, nearly 2 years after the initial operation, a routine

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CT abdomen demonstrated a solitary liver metastasis in segment 6 with periportal lymph node enlargement (Fig. 1). His CEA had risen to 9.5 ng/ml from a normal postoperative value, after the initial preoperative 15 ng/ml. Colonoscopy was normal. A PET scan was not done as the facility was not available at our center and the patient was not able to afford one.

Fig. 1 CT abdomen showing a solitary metastasis in segment VI(6) of the liver with periportal lymph node enlargement

There were no other sites of metastasis identified on further investigation. The patient was planned for a laparotomy in the hope of a curative segment 6 liver resection. Intra-operatively, there was a 4 × 4 cm lesion in segment 6. Intra-operative ultrasound was used to scan the rest of the liver as well as confirm segmental anatomy. There was no evidence of peritoneal disease or disease in the rest of the liver. There were, however, very large hepatic artery nodes. A frozen section of the node disclosed a granulomatous pathology with caseation necrosis suggestive of tuberculosis. The planned liver resection was then performed with curative intent (Fig. 2). The patient had an uneventful postoperative recovery and was started on anti-tuberculosis treatment. Histopathology revealed a moderately differentiated metastatic mucin secreting adenocarcinoma. The surgical margins were free of tumor and the tuberculous pathology of the lymph nodes was confirmed.

Discussion

Tuberculosis has been known to complicate neoplastic disease or even mimic cancer [3]. The incidence of tuberculosis in cancer patients is nine times greater than in the general population [4]. The possibility of tuberculosis should be kept in mind when dealing with malignancy. Tuberculosis is known to be reported for biopsies on suspected malignant tissue; usually a pleasant surprise.

Fig. 2 Frozen section of the periportal lymph node revealing granulomatous pathology

When performing major surgeries like hepatic resections, the frozen section is a commonly used tool to rule out unexpected metastasis suspected intra-operatively.

Hepatic resection of metastatic colorectal cancer has become the treatment of choice for selected patients after resection of the primary colorectal cancer and affords the best hope of survival for patients with colorectal carcinoma metastatic to the liver. Patient selection for resection of hepatic metastases for colorectal cancer is based primarily on documentation of resectable intrahepatic disease and exclusion of extrahepatic disease with the exception of selected pulmonary metastases [5].

During resection of liver colorectal metastasis, microscopic lymph node involvement is reported to occur in 10–20% of the patients and is associated with a poor 5-year survival. In one study, the 3- and 5-year survival rates of patients with lymph node metastasis were 27% and 5%, respectively, compared with 56% and 43% without lymph node metastasis [6].

Perihepatic lymph node involvement portends a poor prognosis, and is reported to be the most important prognostic factor following R0 resection of colorectal liver metastases. Intra-operative confirmation of peri-portal lymph node metastasis usually precludes a curative hepatic resection [2].

In this patient, a frozen section revealing tuberculosis in the peri-hepatic nodes allowed us to proceed with the liver resection. Keeping the possible differential of tuberculosis in mind in cancer patients may help when faced with diagnostic dilemmas, particularly in developing countries. In this patient we believe, a pre-operative PET scan may have erroneously demonstrated positive nodal disease [7].

While a PET scan is a useful and sensitive staging tool, it is important to be aware of the pitfalls of these investigations and to interpret them in the appropriate clinical context.

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