

# Intrahepatic Cholangiocarcinoma in Hodgkin Lymphoma Survivor: Take it or Leave?

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## Abstract

If advances on radiotherapy allowed closing the page on poor Hodgkin Lymphoma prognosis, a new one opens dramatically on the long term effects, as second malignancies radiotherapy-related. Clinician and surgeons are faced to a new dilemma towards these patients, when surgical incision and intervention has to be performed in the radiation field, known to be fraught with serious consequences from delayed cicatrisation to death.

**Keywords:** Hodgkin lymphoma survivor; Late-onset radiotherapy complications; Liver tumor; Radiotherapy surgical risk; Laparoscopy; Patient-tailored strategy

## Abbreviations:

HL: Hodgkin Lymphoma; CT: Computed Tomography; MRI: Magnetic Resonance Imaging; PET: Positron Emission Tomography; RT: Radiotherapy; POD: Post Operative Day

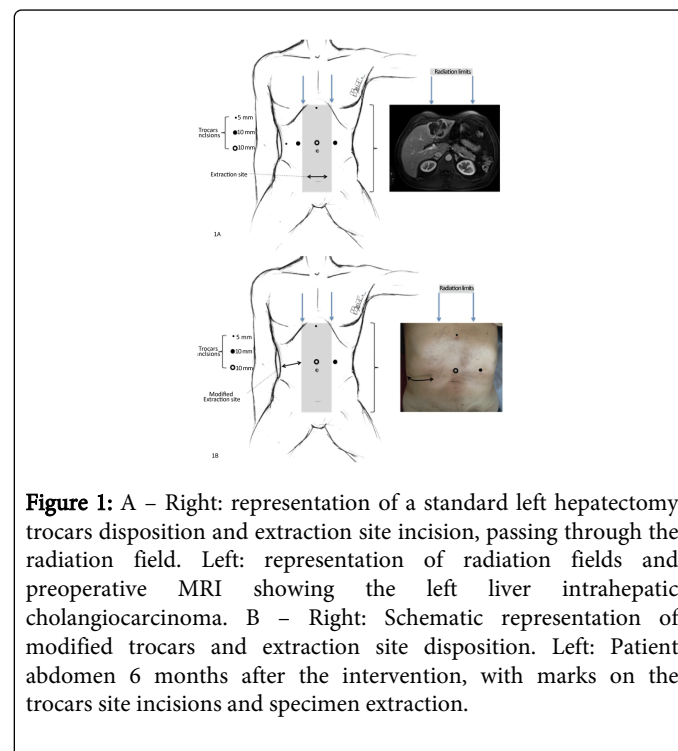
## Case Report

Advances in treatment for Hodgkin Lymphoma (HL) have dramatically improved long-term survival and life expectancy. Despite, survivors are prone to develop high-dose radiotherapy late-onset neoplastic complications: the 30 years cumulative incidence of a second malignancy is 30.7% (95% CI, 28.7-32.7) [1]. Among them, solid tumors account for up to 75–80% of all second malignancies, typically located at the edges of prior radiation fields [1]. Primary liver cancer secondary to HL is significantly increased after mixed-modality treatment, with a 2.6 folds Relative-Risk and 0.5 Absolute Excess Risk per 10,000 Person-Years [2]. When technically resectable, surgery is recognized to be the best curative treatment for primary liver tumors. The downside is that surgery on radiation tissues is highly dangerous leading to poor wound healing, fistula formation, skin necrosis and even death [3] in relation with atrophic tissue inefficient to realize normal healing [4]. A strong ethic dilemma exists towards these patients: take it or leave?

A 57-years old man with history of Hodgkin disease treated during childhood (at 10) by left inguinal node dissection followed by KAPLAN lumbar 40Gy Cobalt irradiation (3 Gy/fraction) without splenectomy or chemotherapy. He has been followed for radiation-induced lower limb lymphedema with biological hepatic disturbances, with past-history of diabetes, high blood pressure, tobacco use, and gout. He was addressed to our unit for a liver cancer and radiological workup including a CT scan and MRI showed a 64mm left intrahepatic lesion, suggestive for intra-hepatic cholangiocarcinoma, in the previous radiation volume (Figure 1A) confirmed by hair

removal above. Clinical workup included Ca 19-9 52 IU/mL, negative colonoscopy and absence of metastasis on PET scan.

Being left hepatectomy the standard curative treatment, we were challenged by the better approach: after declining open laparotomy because the inverted-J incision would have cross in large part the radiation tissue, a pure laparoscopic approach was proposed (Figure 1A). The technique was slightly modified moving the larger incision to remove the specimen from midline (pfannenstiell or short midline) in irradiated volume to right lateral 5-cm incision far from the radiation field (Figure 1B).



**Figure 1:** A – Right: representation of a standard left hepatectomy trocars disposition and extraction site incision, passing through the radiation field. Left: representation of radiation fields and preoperative MRI showing the left liver intrahepatic cholangiocarcinoma. B – Right: Schematic representation of modified trocars and extraction site disposition. Left: Patient abdomen 6 months after the intervention, with marks on the trocars site incisions and specimen extraction.

The intervention lasted four hours, with two intermittent pedicle clamping and 160 ml of blood loss. The patient was discharged on POD 5, without any pre or post-operative complication. The pathological report confirmed the intrahepatic cholangiocarcinoma nature of the tumor, with good oncological margins.

The patient is in excellent clinical condition 9 months later, free from recurrence and with excellent surgical scar without delayed healing, including the two passing in the radiation field (Figure 1B). We did not observe worsening lymphedema, while anti-fibrotic medical treatment including daily 800 mg Clodronate and 1 mg Colchicine was continued.

In the modern era of patient-tailored therapy, especially for its minimally invasive and less traumatic characteristics, surgical resection through laparoscopic approach should be kept in mind as part of a more secure strategic option. A medical treatment against

radiation-induced fibro-atrophic tissue [4] could help healing and must be considered.

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