

Left Hepatectomy (Réglée) for Cholangiocarcinoma Occurring 5 Years after Gastrectomy for Adenocarcinoma – Case Report

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Abstract

Background

Intrahepatic cholangiocarcinoma is an aggressive primary cancer of the liver with limited systemic therapeutic options. Surgical resection may be the only feasible option. It has an overall low incidence among gastrointestinal tumours (3%), and is the second most common cancer of the liver after hepatocellular type.

Most patients diagnosed are asymptomatic, however the most common complaint is abdominal pain and other less common non-specific symptoms such as weight loss.

Case presentation

Our patient is a 72 years old male with the following medical history and presentation: 5 years prior he is diagnosed with adenocarcinoma of the stomach, antro-pyloric region. A 4/5 gastric resection and gastro-entero anastomosis, Braun anastomosis with D2 lymphatic curage without splenectomy was performed. Examinations show a hepatic lesion of segments II – III. A fibrogastroscopy and colonoscopy result normal.

By means of puncture-biopsy a diagnosis of cholangiocarcinoma is established. The patient undergoes a left hepatectomy (Réglée) after he receives a chemotherapy course. His post-operative course was uneventful and was discharged in good health.

Discussion

This specific case posed a diagnostic challenge, knowing his past history for adenocarcinoma of the stomach 5 years prior. Abdominal pain and weight loss lead to a cross sectional imaging detection of a hypovascular lesion of liver segments II – III. Careful evaluation with gastroscopy and colonoscopy, along with puncture biopsy was needed to determine whether it was a metastasis or a primary tumour. In contrast to other intrahepatic tumors like hepatocellular carcinoma, therapeutic methods for intrahepatic cholangiocarcinoma are still being developed due to its rarity. Hepatic resection does, however, have a most important place in the treatment of patients.

Conclusion

Intra-hepatic cholangiocarcinoma remains a difficult condition in terms of diagnosis, surgical decision-making and survivability. However multiple studies confirm the role of surgical resection R0 with lymphadenectomy. Lymphatic permeation, vascular invasion, and intrahepatic satellite lesions were acknowledged as predictors of poor survival. Other treatment options such as chemotherapy and tumor ablation or embolization are still controversial with respect to their survival benefit, but can provide a role in select cases.

Keywords: General Surgery, Hepatobiliary Surgery, Cholangiocarcinoma, Adenocarcinoma, Hepatectomy.

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1. Introduction

Intrahepatic cholangiocarcinoma is an aggressive primary cancer of the liver with limited systemic therapeutic options. Surgical resection may be the only feasible option. It has an overall low incidence among gastrointestinal tumours (3%), and is the second most common cancer of the liver after hepatocellular type.

Most patients diagnosed are asymptomatic, however the most common complaint is abdominal pain and other less common non-specific symptoms such as weight loss.

The diagnosis of intrahepatic cholangiocarcinoma is achieved with cross-sectional studies that typically show a hypovascular area. Upper and lower GI endoscopies should be performed to exclude a primary tumour. Most common sites for lymphatic dissemination are hepatic hilar lymph nodes, peripancreatic, retroperitoneal, paraaortic and mediastinal. Metastases to distant organs such as lungs and bones may be present.

Treatment options vary from surgical hepatic resection with or without lymphadenectomy, tumor ablation, transarterial chemoembolization or radioembolization, to chemotherapy, biologic therapy or radiotherapy. Up to 80% of liver volume can be resected in healthy patients and up to 60% in those with impaired function. Liver

transplant also is an alternative to paliation. A R0 resection with lymphadenectomy is associated with prolonged survival rates.

Table 1. Staging system for intrahepatic cholangiocarcinoma (7th edition AJCC)

Classification	Description
T1	Solitary tumor without vascular invasion.
T2a	Solitary tumor with vascular invasion (both major and microvascular).
T2b	Multiple tumors with or without vascular invasion.
T3	Tumor perforating visceral peritoneum or involving local extrahepatic structures by direct invasion.
T4	Tumor with periductal invasion.
N0	No regional lymph node metastases.
N1	Regional lymph node metastases.
M0	No distant metastases.
M1	Distant metastases (includes nodal involvement of celiac, periaortic, or caval lymph nodes).
Stage groups	
Stage I	T1N0M0
Stage II	T2N0M0
Stage III	T3N0M0
Stage IVA	T4N0M0; any T, N1M0
Stage IVB	Any T, any N, M1

2. Case presentation

2.1 Medical history

Our patient is a 72 years old male with the following medical history and presentation:

5 years prior he is diagnosed with adenocarcinoma of the stomach, antro-pyloric region. A 4/5 gastric resection and gastro-entero anastomosis, Braun anastomosis with D2 lymphatic curage without splenectomy was performed. He receives a complete chemotherapy course.

After 4 and a half years from this surgery, the patient complains of upper right quadrant abdominal pain and weight loss.

2.2 Examinations

Examinations show a hepatic lesion of segments II – III (Fig. 1). The resected stomach is also visible.

A fibrogastroscopy and colonoscopy result normal (Fig. 2).

By means of puncture-biopsy a diagnosis of cholangiocarcinoma is established (Fig. 3).

The patient receives 4 courses of chemotherapy, he is then prepared for surgery.

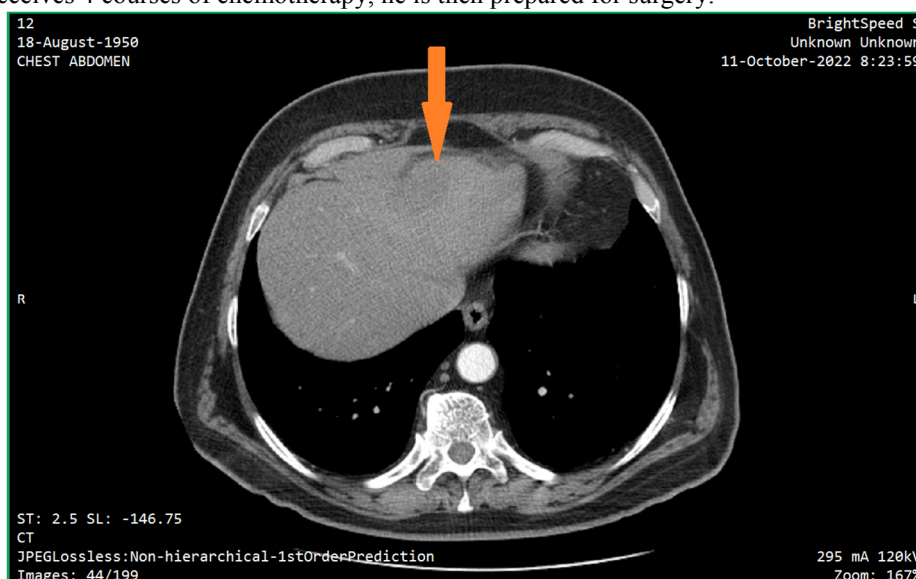


Figure 1. CT sequence showing a hypodense neoformation in segments II – III.

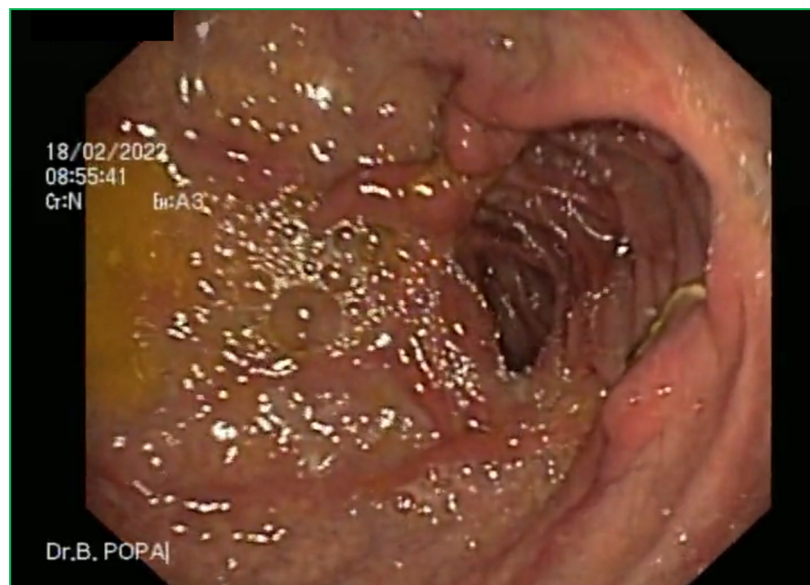


Figure 2. Fibrogastroscopy showing intact gastro-entero anastomosis.

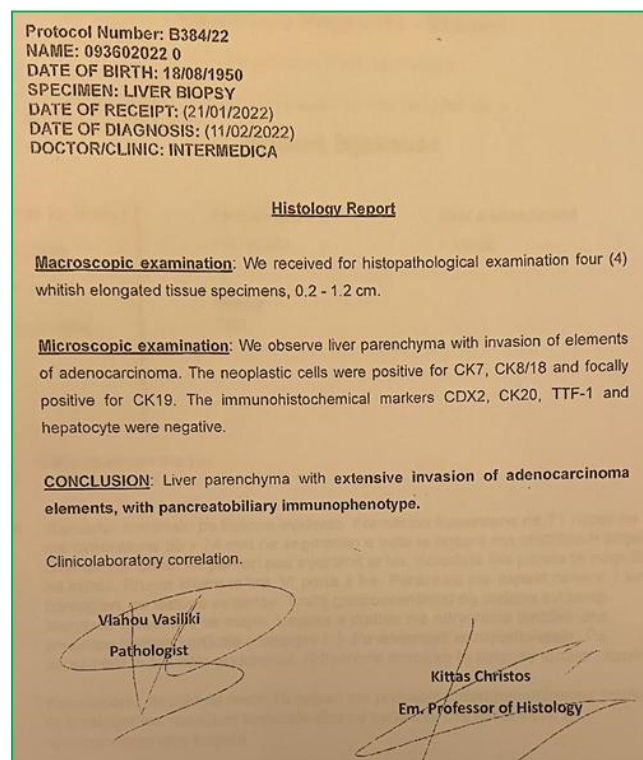


Figure 3. Pathology report for puncture-biopsy prior to surgery (Extensive invasion of adenocarcinoma elements, with pancreato-biliary immunophenotype).

2.3 Details of the procedure

Left Hepatectomy Réglée.

We start with a bicostal incision. Peritoneum access is achieved. Numerous post-operative adhesions were encountered. The adhesions were released and the peritoneal cavity is revised (Fig. 4). All visceral organs had a normal macroscopic aspect.



Figure 4. Incision and adhesiolysis.

A liver neof ormation of 3 cm × 4.5 cm is noted on segments II, III and IV. Other liver segments were intact.

Falciform ligament is divided. Then, the triangular ligaments are released to allow mobilization of the liver. We proceed with cholecystectomy and the dissection of hepatic hilum, where a rubber tourniquet (Pringle) is passed. Next, the left and right hepatic arteries are divided and a rubber loop is passed on each. We continue towards the bifurcation of the bile ducts, right and left (on the latter a rubber loop is passed). The left hepatic artery is ligated and cut (Fig. 5), along with the left hepatic duct.

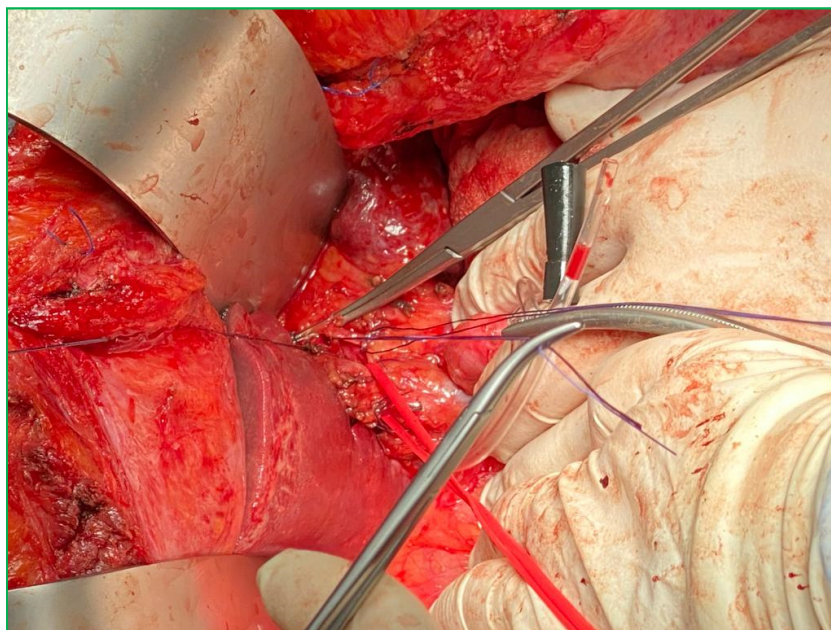


Figure 5. Left hepatic artery is cut and ligated. Note the transparent loop passing the hepatic hilum, ready for a Pringle manoeuvre.

At the bifurcation level, we start dissecting the branches of portal vein. The left branch of portal vein is cut and sutured with prolene suture (Fig. 6). We continue at the level of left suprahepatic vein. After a loop is passed, it is then cut and ligated.

Following this, we start the resection of hepatic tissue, as in the Fig 7, starting from the demarcation line in segment IV, continuing with the resection of segments II – III – IV. We check for hemostasis. A T-tube is implanted (Fig. 8).

2.4 Post-operative period

The patient tolerated the procedure well, with uneventful post-operative course. He was discharged in good health. The T-tube was removed 45 days after the surgery.

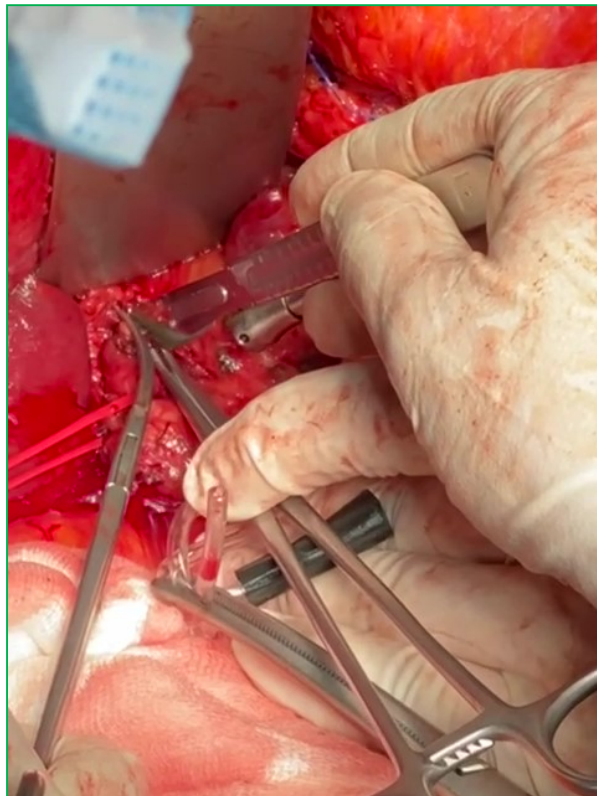


Figure 6. Left branch of portal vein being cut, then sutured with prolene suture.

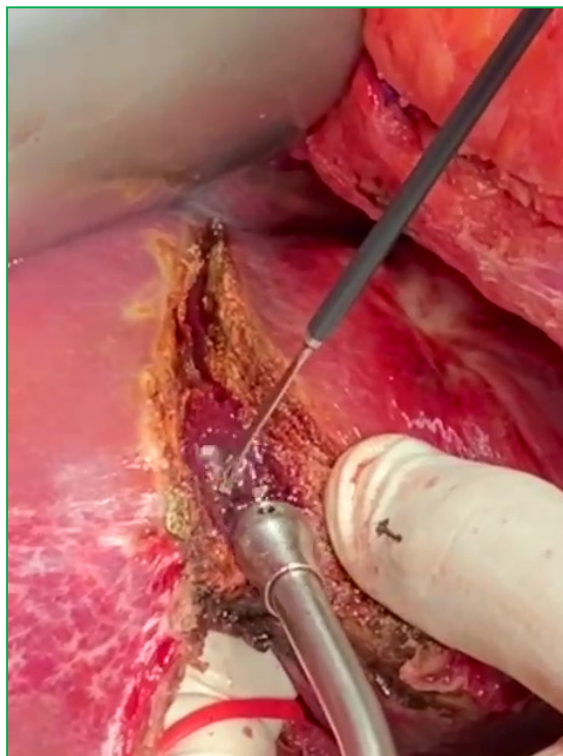


Figure 7. Resection of hepatic tissue at the demarcation line.

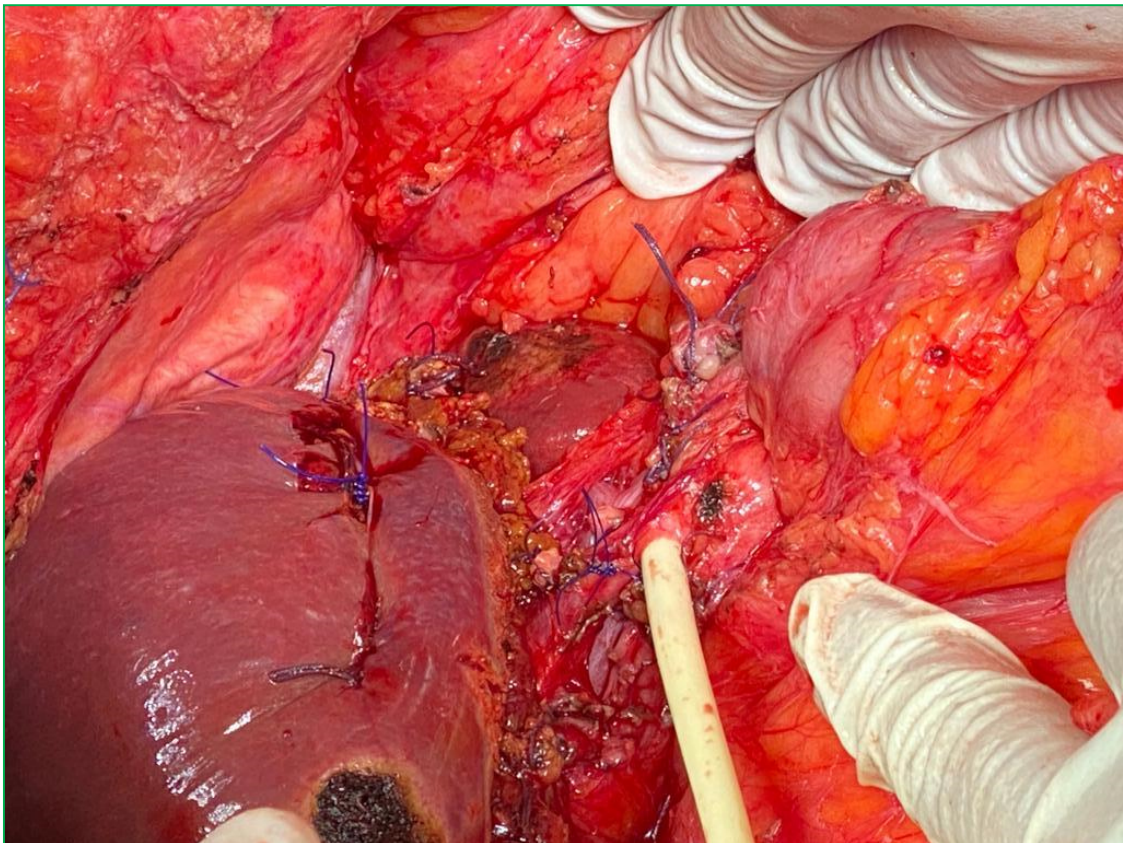


Figure 8. After hemostasis is established, a T-tube (Kehr drain) is implanted. End result.



Figure 9. The resected specimen. (Left – gallbladder. Right – IInd, IIIrd and partial IVth liver segments with falciform ligament)

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ANATOMO – PATHOLOGY SERVICE
Chief of Department Prof. Dr. Majlinda Ikononi

BIOPSY REPORT FOR PATHOLOGY EXAMINATION

Patient:	██████████	Biopsy nr.	6696/22
Age:	72	Date of arrival:	02.11.2022
Gender:	M	Referring clinic:	I st Clinic Prof. As. H. Kolani
Biopsy type:	Liver		
Clinical diagnosis:	Liver neoformation		

Macroscopic evaluation
Tissue fragment of 11×8×5cm with a dense area of beige color approximately 3.5cm (A1-A2, in cross section) that extends in one lateral border. Close to it a small beige area is noted (A4).
Dr. Blerina

Microscopic evaluation and conclusion
In the examined material a liver tissue fragment is noted, with the presence of a carcinomatous infiltrative lesion, organized in glandular structures and atypical solid isles, with areas of sclero-hyalinosis and inflammatory aggregates. Further immunohistochemical examinations are recommended to verify the primary or secondary nature of the carcinomatous lesion and full clinical-laboratorial correlations.
L. Budo

ELECTRONIC SIGNATURE

Figure 10. Post-operative pathology report.

3. Discussion

This specific case posed a diagnostic challenge, knowing his past history for adenocarcinoma of the stomach 5 years prior. Abdominal pain and weight loss lead to a cross sectional imaging detection of a hypovascular lesion of liver segments II – III. Careful evaluation with gastroscopy and colonoscopy, along with puncture biopsy was needed to determine whether it was a metastasis or a primary tumour.

Most patients diagnosed with cholangiocarcinoma of the liver have no known risk factors. Nevertheless, potential risk factors exist, such as: primary sclerosing cholangitis, chronic parasitic infections, hepatolithiasis, congenital biliary cysts, liver cirrhosis and smoking.

Many researches have demonstrated the potential for long-term survival in these patients. Surgeons frequently perform extensive surgical procedures, such as extended hepatectomy, bile duct resection, and vascular resection.

Nodal involvement is an important predictor of outcome in many studies. Although the number and location of positive nodes can affect survival, the presence of any nodal disease is associated with poor outcome, hence classifying it directly to stage IVA.

In contrast to other intrahepatic tumors like hepatocellular carcinoma, therapeutic methods for intrahepatic cholangiocarcinoma are still being developed due to its rarity. Hepatic resection does, however, have a most important place in the treatment of patients.

4. Conclusion

Intra-hepatic cholangiocarcinoma remains a difficult condition in terms of diagnosis, surgical decision-making and survivability. However multiple studies confirm the role of surgical resection R0 with lymphadenectomy. Lymphatic permeation, vascular invasion, and intrahepatic satellite lesions were acknowledged as predictors of poor survival.

Other treatment options such as chemotherapy and tumor ablation or embolization are still controversial with respect to their survival benefit, but can provide a role in select cases.

It is required to evaluate a patient's operability before to major procedures, especially those involving the hepato-biliary system. It is important to consider both the comorbidities and the size of the underlying tumor. Such a rare and complex case has been successfully treated using a strict surgical technique, careful patient monitoring, and the involvement of a multidisciplinary team of gastro-hepatology, oncology, and critical care

doctors in the treatment plan.

Conflict of interest

The author(s) declare(s) that there is no conflict of interest. The authors alone are responsible for the content and writing of the paper.

Financial disclosure

There is no financial support to this study.

Ethical aspect

Informed consent was obtained from all participants in the study and all procedures were conducted in accordance with the Declaration of Helsinki.

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