

Dysplasia of Cystic Duct and Positive Resection Margins after Cholecystectomy: A Challenging Decision Making Process

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Abstract

After cholecystectomy, the presence of dysplasia at resection margins on the cystic duct is rare and evidences lack. A 44-year-old woman underwent a cholecystectomy and a low-grade dysplasia of the cystic duct with involvement of the resection margin was found. A robot-assisted resection of the cystic duct stump was performed as close as possible to the common bile duct and the patient had an uneventful recovery. The histological examination did not show dysplasia on the proximal resection margin. In our experience, the surgical treatment of low-grade dysplasia on the resection margins after cholecystectomy provided optimal results. Further studies are needed to investigate the role of surgery and follow-up of this uncommon condition.

Introduction

Laparoscopic cholecystectomy is considered the gold standards treatment for patients with symptomatic cholelithiasis and has become one of the most common surgical procedure worldwide [1]. It is described that 0.3 to 2% of cholecystectomies are found at the histological examination to have a dysplasia [2,3]. Usually, it does not involve the resection margin, so that, no further treatment is needed [4]. Cases with positive resection margins are rare and evidences on clinical implications, treatments and follow-up lack.

Case Report

A 44-year-old woman without comorbidities underwent a robotic cholecystectomy (Da Vinci Si) due to symptomatic cholelithiasis. The histopathological examination revealed low-grade dysplasia and intestinal metaplasia of the cystic duct with involvement of the resection margin. The case was discussed at a multidisciplinary hepatobiliary tumour board and a further surgical treatment was proposed. A minimally invasive, robot assisted (Da Vinci Si) resection of the cystic duct was performed. The operative time was 54 minutes with minimal blood loss. Two 5 mm absorbable clips were applied as close as possible to the common bile duct and 2.5 cm of the cystic duct stump were resected. The patient had an uneventful recovery and in the second

postoperative day was discharged. The histological examination did not show dysplasia on proximal resection margin. After re-evaluation in our board, no further follow-up was indicated (Figure 1).

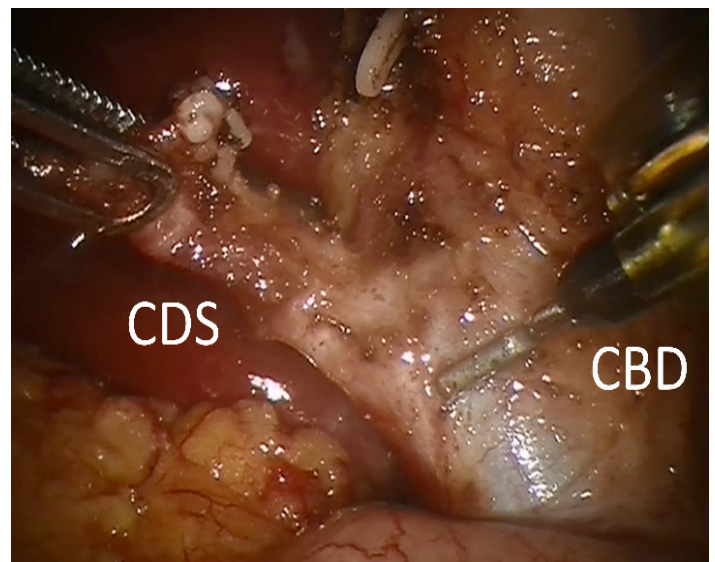


Figure 1: Intraoperative imaging showing the robotic resection of the Cystic Duct Stump (CDS) close to the Common Bile Duct (CBD).

Discussion

Gallstone disease is endemic in developed countries and affects 10-15% of the adult population in the Western world. A study of the natural history of cholelithiasis demonstrates that approximately 35% of patients diagnosed with gallstones later developed complications or symptoms leading to surgery [1]. Due to the multitude of cholecystectomies performed yearly, an optimal management of uncommon and rare conditions should be considered mandatory.

The incidence of dysplasia found on the specimen after cholecystectomy is low, ranging in different studies from 0.3 to 2% [2,3]. In almost all cases, it involves the gallbladder only, so that, no further surgical treatment is needed. To date, only two reports described the presence of dysplasia on resection margins after cholecystectomy [5,6]. This condition represents a challenge for treatment since evidences are sparse. It should be considered that biliary dysplasia represents a risk factor for the development of a malignancy and it is found in 40-60% of patients with invasive carcinoma [7]. When the dysplasia involves the gallbladder only and resection margins are free, no further surgical treatment is indicated [4]. However due to the known progression of dysplasia to cancer, the aggressive nature and poor prognosis of biliary malignancies, it is prudent to extensively evaluate and follow-up for concomitant and multifocal malignancies [5,8,9]. The optimum management of patients with dysplasia at the cystic duct margin is unclear. Bickenbach, et al. [5] reported an invasive cholangiocarcinoma in one of five patients with high-grade dysplasia at the cystic duct margin without pre-operative evidence of malignancy. The authors concluded that the risk of underlying biliary carcinoma in case of high-grade dysplasia of the cystic margin is real and an aggressive treatment is preferable. Similarly, Moslim, et al. [6] suggested the excision and reconstruction of the main bile duct in case of high-grade dysplasia after cystic duct resection.

In our case, the surgical treatment of the positive resection margin was taken into account considering the above-mentioned arguments, the young age of the patient and the low operative risk. The presence of a low-grade dysplasia justified a cystic stump resection instead of a more aggressive treatment. The robot-assisted

approach permitted to dissect scar tissues in the pre-operated area, until the cystic duct stump was completely freed and resected. Finally, after the discussion in a multidisciplinary board, no further investigation nor follow-up were considered mandatory.

Conclusion

In our experience, the surgical treatment of low-grade dysplasia on the resection margins after cholecystectomy provided optimal results. Further studies are needed to investigate the role of surgery and follow-up of this uncommon condition.

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