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BILIARY INTRAEPITHELIAL NEOPLASIA – AN INCIDENTAL PATHOHISTOLOGICAL FINDING AFTER LAPAROSCOPIC CHOLECYSTECTOMY DUE TO ACUTE CHOLECYSTITIS – CASE REPORT

Surgery

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ABSTRACT

We present a case of a female patient, who was referred to our department due to a severe colic pain in the upper right abdomen lasting for a couple of days. The ultrasound showed a 15 mm stone in a slighty enlarged gallbladder. The working diagnosis was set as an acute gangrenous cholecystitis. The patient underwent a laparoscopic cholecistectomy. The subsequent pathohistological diagnosis was a low grade focal biliary intraepithelial neoplasia.

KEYWORDS:

acute cholecystitis, laparoscopic cholecystectomy, biliary intraepithelilal neoplasia, pathohistologic entity.

INTRODUCTION

Biliary intraepithelial neoplasia (BilIN) is the most frequently observed premalignant lesion of the biliary tract (1). It is a microscopic lesion characterized by atypical epithelial cells with multi-layering of the cell nuclei and micropapillary projections into the lumen of the bile ducts (2). It is graded following a three-level system based on the degree of atypia: BilIN-1 equals low-grade dysplasia, BilIN-2 intermediate-grade dysplasia and BilIN-3 high-grade dysplasia. BilIN-3 is a premalignant lesion and can be defined as a carcinoma in situ and is a direct precursor to the invasive adenocarcinoma (1).

BiIIN is a flat epithelial lesion, thus being undetectable by imaging diagnostics. The diagnosis is solely pathohistological (3).

We present a case of biliary intraepithelial neoplasia diagnosed in the setting of postoperative diagnostics after laparoscopic cholecystecto my due to acute cholecystitis.

CASE REPORT

In this case report we present a case of a 62-year-old female patient, who was referred to our department due to severe colic pain in the upper right abdomen lasting for the past 2 days. The patient was nauseous (but did not vomit) and febrile (37,8°C). Abdomen was diffusely tender to palpation but without peritoneal signs. Abnormal laboratory values included serum glucose (6,2 mmol/l), potassium (3,2 mmol/l) and C-reactive protein (CRP - 147 mg/l). In the past she had a histerectomy and bilateral oophorectomy.

The abdominal ultrasound showed a 15 mm stone in a slighty enlarged gallbladder with normal thickness of the wall. Bile ducts were not dilated.

The patient was sent to the operating theatre. She was placed in a supine position and endotracheally intubated. The operative field was prepared in a sterile manner.

Veress needle was inserted through a transverse incision just above the belly button. Pneumoperitoneum was created. Laparoscopy was performed and on initial exploration of the abdominal cavity we found some scars after previous gynecologic surgeries and a gangrenously inflammed gallbladder. Laparocopic cholecystectomy was performed. The abdominal cavity was irrigated with saline, an abdominal drain was inserted and the skin wounds were sutured. The gallbladder wwas sent to the pathohistological analysis. The pathohistologic report confirmed that it was indeed the case of acute haemorrhagic and purulent cholecystitis but it also spoke of a low grade focal biliary intraepithelial neoplasia.

The postoperative course was uneventful. On the second postoperative day the patient started to eat normal food. On the third postoperative day she was discharged from the hospital.

DISCUSSION

BiIIN does not produce any clinical symptoms. It's incidence is similar to that of invasive carcinoma although the actual incidence cannot be accurately determined as not all of BiIINs especially those of low grade are found (4). It's incidence is higher in patients with chronic biliary disease and chronic liver disease such as hepatolithiasis, choledochal cyst, chronic hepatitis C, and alcoholic cirrhosis (5). Primary sclerosing cholangitis patients and gallbladder cancer patients are especially at risk of developing BilIN (40%–60%). Approximately 1% to 3.5% of cholecystectomies, especially those with cholecystolithiasis, are found to have incidental BilIN. There is no sex predilection for BilIN (4).

BiIIN can also be found adjacent to invasive cholangiocarcinomas (2). It shares several molecular alterations with cholangiocarcinoma, including overexpression of KRAS, p21, p53, cyclin D1 and EZH2 and decrease in expression of Dcp4 and p16INK4A. S100P is a marker which's immunohistochemical expression is increased in BilIN-2 and BilIN-3 but not in benign epithelium and BilIN-,1 which makes it of particular interest as it could be used in clinical diagnosis and grading of BilIN (5).

The natural course of these neoplasms is progression to an eventual malignant lesion, hence it is important to detect them and then regularly follow them up. This is challenging, resulting in the limited understanding of the natural course or progression of BilIN. When these tumors grow large enough to become palpable, the symptom of biliary obstruction is usually present. Common clinical presentations of patients with BilIN include jaundice, intermittent pain, dyspepsia, weight loss, nausea, vomiting, malaise and fever. Laboratory test results typically demonstrate elevated levels of bilirubin, alkaline phosphatase and liver enzymes (6).

Other premalignant lesions, except for BilIN, may occur in the intrahepatic and extrahepatic bile ducts, most notably intraductal papillary neoplasm (IPN). The discrimination of BilIN and biliary IPN is usually based on the size of the lesion and the proliferation patterns. BilIN is a microscopic lesion with pseudopapillary lesions and indistinct fibrovascular cores and is not grossly identifiable, while biliary IPN is grossly visible, and microscopically characterized by prominent papillary proliferation with distinct fibrovascular cores (7). The only treatment for BiIIN and to prevent it's progression to a malignant lesion is a surgical resection. Due to BilIN's potential for malignant transformation it would be wise to establish a monitoring protocol for regular follow up of those patient's. This would include surveillance using endoscopy and endoscopic ultrasonography and monitoring of any changes in the hepatic functioning panel (6) .

CONCLUSION

BiIIN is a pathohistologic entity. It does not manifest with clinical symptoms and cannot be detected by imaging diagnostics. BilIN can progress from a benign to a malignant lesion, hence it is critical to discover it and treat it accordingly. Treatment of choice is surgical resection. Regular follows up after BiIIN grade 1 resection probably aren't necessary but this doesn't apply to post resection of BiIIN 2 and 3 patients who require regular follow up. Establishing a clear diagnostic, treatment and post treatment monitoring protocol is a necessity in the future.

CONFLICT OF INTEREST STATEMENT

None declared.

REFERENCES

1. Matthaei H, Lingohr P, Strässer A, Dietrich D, Rostamzadeh B, Glees S, et al. Biliary intraepithelial neoplasia (BilIN) is frequently found in surgical margins of biliary tract cancer resection specimens but has no clinical implications. Virchows Archiv. 2015 February 01;466(2):133-41.
2. Jung W, Kim B-h. Biliary intraepithelial neoplasia: a case with benign biliary stricture. The Korean Journal of Hepatology. 2011 12/26;17(4):328-30. PubMed PMID: PMC3304671.
3. Sato Y, Sasaki M, Harada K, Aishima S, Fukusato T, Ojima H, et al. Pathological diagnosis of flat epithelial lesions of the biliary tract with emphasis on biliary intraepithelial neoplasia. Journal of Gastroenterology. 2014 January 01;49(1):64-72.
4. Ainechi S, Lee H. Updates on Precancerous Lesions of the Biliary Tract: Biliary Precancerous Lesion. Archives of Pathology & Laboratory Medicine. 2016;140(11):1285-9. PubMed PMID: 27788047.
5. Ettel M EO, Xu R. Clinical and biological significance of precursor lesions of intrahepatic cholangiocarcinoma. World J Hepatol. 2015 Nov 8, 2015;7(25):2563-70. Epub Nov 8, 2015.
6. Wang W, Chen W, Li K, Wang J. Successful treatment of biliary intraepithelial neoplasia in the common bile duct via local excision: A case report. Oncology Letters. 2016 May;11(5):3142-4. PubMed PMID: 27123079.
7. Zen Y, Adsay NV, Bardadin K, Colombari R, Ferrell L, Haga H, et al. Biliary intraepithelial neoplasia: an international interobserver agreement study and proposal for diagnostic criteria. Mod Pathol. 2007 04/13/online;20(6):701-9.