Editorial

Bile spillage and incidental gall bladder adenocarcinoma

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The Editor-in-Chief of '*Hepatobiliary Surgery and Nutrition*' invited me to write an editorial on the article entitled "*Adverse outcomes after bile spillage in incidental gall bladder cancer*" by Horkoff *et al.* which was published in the 2019 April issue of *Annals of Surgery* (1).

Gall bladder adenocarcinoma is a rare cancer which is most commonly discovered incidentally with the primary pre-operative impression of chronic cholecystitis. Increasing laparoscopic cholecystectomies as the gold standard procedure for resection of gall bladder, have caused more detection of incidental gall bladder cancers. Incidental gall bladder carcinoma is defined as carcinoma of gall bladder detected for the first time after cholecystectomy and accidentally found on histological examination of the gall bladder (2). The term incidental can be used just for cases which are operated with no knowledge about any malignancy before surgery. Radiological findings including ultrasonography and CT scan would also not add much information before surgery, especially in early stages of gall bladder cancer. Incidental gall bladder carcinoma has been reported in 0.20–3% of all cholecystectomies. Most of the above-mentioned incidental gall bladder carcinomas present with advanced disease and are not good candidates for curative surgeries (3,4).

In the patients with incidentally detected gall bladder cancers only 10% have resectable disease (1).

During the primary cholecystectomy for neoplastic and nonneoplastic gall bladders, risk of bile spillage either purposeful or accidental, is about 25% of preliminary surgeries (1).

Gall bladder emptying, and Bile spillage causes dissemination of cancer cells in 0.5% of the gall bladder surgeries. The leak can be from gall bladder, cystic duct or other parts of the biliary system (2).

To prevent unwanted and accidental bile spillage, surgeons should consider suspicious appearances of carcinoma such as irregular thickening of gall bladder wall, enlarged pericholecystic and hilar lymph-nodes, infiltration in the liver parenchyma, hard and shrunken gall bladder as well as polypoid lesions in the gall bladder (3,4).

Presence of suspicious findings should alert the surgeon not to attempt for primary resection and postpone the surgery to full workup by imaging studies such as magnetic resonance imaging (MRI) and computed tomography (CT) scan (1). In some centers, there is a high threshold of tissue biopsy for frozen section requesting upon the presence of thick-walled gall bladder, however it's worthy to note that chronic long-standing cholecystitis with choledocholithiasis can cause significant increased gall bladder wall thickness as well (3). Also, frozen section cannot examine the whole tissue and entire lesion, so sometimes it's difficult to distinguish cancer *in situ* from regenerative epithelial atypia by frozen section (5).

At any rate, incidental gall bladder cancers are surgical challenge for the surgeon to inform the patient, several days after cholecystectomy and to evaluate the patient for second revisional surgery (6,7).

Surgeons should be ready and prepared to manage a patient with incidentally detected gall bladder cancer. They should not forget about oncological main goals in the treatment of the cases with incidental gall bladder cancer. The surgeons should consider a two-stage approach (5,7).

Only T1a patients with clear margin and unbroken gallbladder can be treated with simple laparoscopy. Bile spillage

is always a serious complication in these surgeries (8-10).

For patient's stage T1b and above, an extended radical re-resection is highly recommended. It is because, patients with tumors staged higher than T1b might have residual disease including lymph node involvement, liver bed infiltration, and bile duct involvement (9-11). It should be mentioned that in some situations, re-operation after discovery of incidental gall bladder cancer is not possible because of patient's unwillingness and advanced age (3).

Risk of bile spillage and port site metastasis is high, so an intact surgical specimen by using a plastic retrieval bag is advised by some authors to reduce the risks relapse (10). This is the reason for careful cholecystectomy avoiding any bile spillage, and the conversion from laparoscopic to open technique, when there is any suspicion or difficulty. This should not be considered as technical failure, and it is a decision for safer means to handle an unexpected situation to prevent declining the patients' survival and surgical outcome (4). This is because, laparoscopic surgery for gall bladder cancer is still in the early phase of the learning curve, and more evidence is necessary before this procedure can be widely accepted as the procedure of choice for gall bladder cancers (9).

There are strong evidences shown that most important prognostic factors in gall bladder cancers are depth of invasion, extent of resection, and bile spillage (5).

Overall, the number of patients with incidental gall bladder cancer in the literature is not so high and clinical follow-up of these patients is not so long, so there is not a consensus or guideline for the management of incidental gall bladder cancer, however there is a theoretical concept of increased bile spillage and gall bladder cancer dissemination secondary to laparoscopic surgery and the post-operative incidental detection of gall bladder adenocarcinoma (9-15).

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Footnote

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