

Seeding from early stage gallbladder carcinoma after laparoscopic cholecystectomy



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Introduction

In the last years laparoscopic cholecystectomy (LC) has become the "gold standard therapy" in the treatment of symptomatic cholelithiasis. In spite of the undeniable advantages offered by this surgical approach, such as less post operative pain, shorter hospital stay, quick return to work, better cosmetic results, it is necessary to keep into account some problems and risks that can arise from laparoscopic technique. One of these risks is represented surely by the disregarding of a gallbladder carcinoma. The incidence of gallbladder carcinoma in autopsy series ranges from 0.18 to 0.81 per cent (1, 2). Although rare, gallbladder carcinoma is the fifth most common neoplasm of the gastrointestinal tract (3). Moreover only 10-30% of these malignancies are diagnosed preoperatively (4). We report a case of peritoneal seeding of an unsuspected gallbladder carcinoma following laparoscopic cholecystectomy. The metastasis developed 2 months after the operation at the umbilical port site, at another port site and to the right lobe of the liver.

Case report

A 59 years old patient, (who knew to have gallstones for more than 12 years), came to our Surgical Department. He denied recent episodes of pain or jaundice. A

Abstract

In the last years laparoscopic cholecystectomy has become the "gold standard therapy" in the treatment of symptomatic cholelithiasis, but it is necessary to keep into account some problems and risks that can arise from laparoscopic technique. One of these risks is represented surely by the disregarding of a gallbladder carcinoma.

The authors report a case of peritoneal seeding of an unsuspected gallbladder carcinoma following laparoscopic cholecystectomy. The first histologic diagnosis was chronic ulcerous cholecystitis with adenomiosis but 2 months later the metastasis developed at the umbilical port site, at another port site and to the right lobe of the liver. Another histological sampling of the gallbladder specimen was performed and this time a little intra mucous gallbladder adenocarcinoma was found (T1 stage).

While the most part of literature data concern advanced stage of the disease at the time of operation (T2, T3) only few reports regard early stage neoplasm.

Therefore this risk is present not only in advanced stages of gallbladder carcinoma but even in cases of early stage cancers.

After a laparoscopic cholecystectomy all specimen should be opened and inspected. If there is a gallbladder wall irregularity and if there was a bile spillage it is advisable to perform a peroperative histologic examination.

Key words: Laparoscopic cholecystectomy, gallbladder cancer, port seeding.

Riassunto

IMPIANTO DI CARCINOMA COLECISTICO SULLA PARETE ADDOMINALE DOPO COLECISTECTOMIA LAPAROSCOPICA

Negli ultimi anni la colecistectomia laparoscopica è divenuta "terapia gold standard" nel trattamento della colelitiasi, ma è necessario prendere in considerazione alcuni problemi e rischi che possono derivare dalla tecnica laparoscopica. Uno di questi è sicuramente rappresentato dalla mancata rilevazione di un carcinoma della colecisti.

Gli Autori riferiscono di un caso di disseminazione metastatica peritoneale conseguente a colecistectomia laparoscopica o dovuta ad un insospettato carcinoma della colecisti. La prima diagnosi istologica è stata di colecistite cronica

ulcerosa con adenomiosi, ma due mesi più tardi si sono sviluppate metastasi in corrispondenza della porta di accesso ombelicale, in altre porte di accesso e nel lobo destro del fegato. È stato effettuato un ulteriore esame istologico della colecisti ed in questa occasione è stata riscontrata la presenza di un piccolo adenocarcinoma intramucoso (stadio T1). Mentre la maggior parte dei dati riportati in letteratura si riferisce a stadi avanzati della malattia all'epoca dell'intervento (T2, T3), sono pochi i riferimenti alle forme precoci di neoplasia.

Pertanto tale rischio è presente non soltanto negli stadi avanzati di carcinoma della colecisti ma anche in quelli iniziali. Dopo una colecistectomia laparoscopica tutti i reperti debbono essere aperti e ispezionati. Se è presente una irregolarità della parete della colecisti e se vi è stato gemizio biliare è consigliabile effettuare un esame istologico estemporaneo. Parole chiave: Colecistectomia laparoscopica, cancro della colecisti, disseminazione nella porta di accesso.

ultrasonography performed before hospitalization showed a cholecystolithiasis and an hydropic gallbladder without wall abnormalities. Common bile duct was reported normal.

At clinical examination gallbladder was palpable. Preoperative laboratory investigations were into the normal range. An uneventful laparoscopic cholecystectomy was performed. During the operation, due to the difficulties to grasp the gallbladder, a gallbladder puncture with suction was performed. A peritoneal washing was performed at the end of the operation. A drainage was placed under the liver and it was removed 12 hour after the operation. The patient was discharged three days after the operation. Before discharging another ultrasonography was performed. This latter examination denied peritoneal collection of fluid or other abnormalities and showed a normal liver parenchyma. Histological examination of surgical specimen performed using a routine random sampling showed chronic ulcerous cholecystitis with adenomiosis.

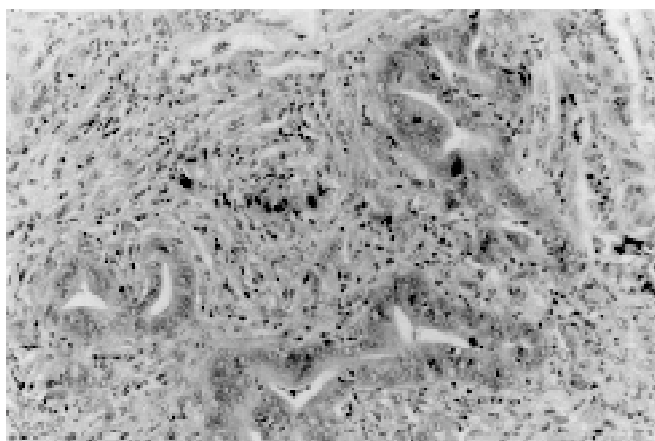


Fig. 1: CT Port site umbilical metastasis 2 months after L.C.

Two months after the operation, the patient came back to our Surgical Unit showing a mass developed in correspondence of the drainage port. A biopsy of this mass was performed. The histological response was: "metastasis from well differentiated adenocarcinoma" (Fig. 1). Bilirubin, CEA, Ca19.9 were within normal range. Other instrumental examination such as Ultrasonography; CT scan and MRI revealed neoplastic localizations at two port sites (umbilical and right side of abdomen) (Fig. 2). Two hepatic metastasis were also discovered at VII and VIII segment (Fig. 3).



Fig. 2: Section of subcutaneous tissue at umbilical port site: Metastasis of gallbladder carcinoma (x 630).

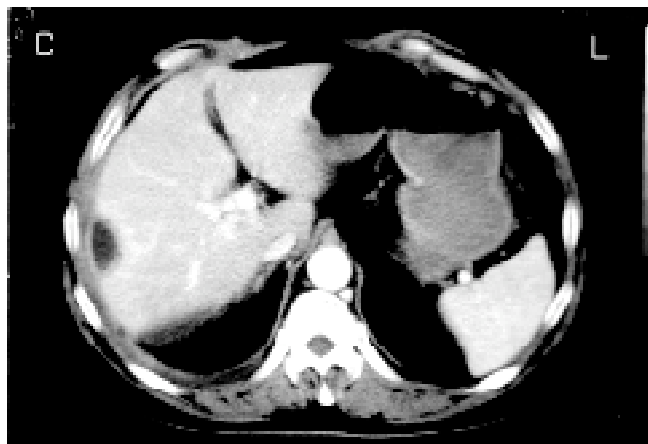


Fig. 3: CT Hepatic metastasis 2 months after L.C.

At that time we used to conserve our gallbladder specimens in fluid nitrogen and thereafter in freezer for the determination of inflammation mediators so another histological sampling of the gallbladder specimen was performed. This time a little (3 mm) intra mucous gallbladder adenocarcinoma was found (T1 stage) (Fig. 4 and 5). The patient underwent a new intervention but at laparotomy peritoneal carcinosis was found. Now he is under treatment with chemotherapy.

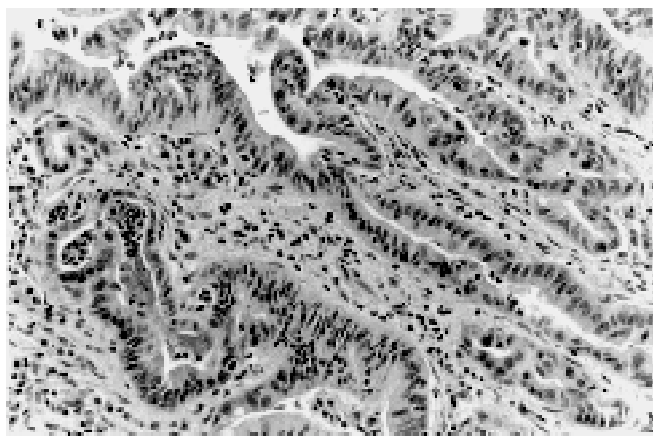


Fig. 4: Gallbladder wall section. (x 250). The pseudoglandular excavations deepen in the chorion. A certain architecture disorders and the cellular and particularly nuclear atypias may be referred to the very severe phlogosis.

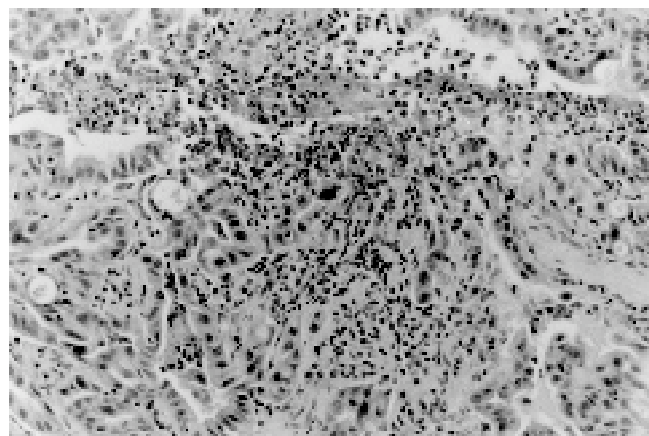


Fig. 5: In a wider enlargement (x 400) of the gallbladder wall the architectural disorder and the cellular and nuclear atypias are more evident. Similar alterations may be present also in severe phlogosis besides in carcinoma like in this case.

Discussion

Case reports of port site implantation of metastasis after laparoscopic surgery are increasingly published. A recent review of literature data (1997) about port site recurrences after laparoscopic procedure reports: 55 cases by colon cancer; 51 by gallbladder carcinoma; 22 by ovarian cancer; 6 by pancreatic cancer; 4 by esophageal cancer and 4 by gastric cancer.

Since the first report in 1991 (5) until 1997, 51 cases (6) of parietal seeding of gallbladder carcinoma after laparoscopic cholecystectomy were described. While the most part of literature data concern advanced stage of the disease at the time of operation (T2, T3) (3, 4, 7, 8) only few reports regard early stage neoplasms (9, 10, 11).

In this report we describe a T1 (intra mucosal) gallbladder carcinoma that was able to metastasize with remarkable aggressiveness. Moreover our patient developed, besides port metastases, two hepatic metastases. Such a strong aggressiveness, already described by others authors (12, 13) puts alarming questions about employing of "minimal invasive procedures". Could laparoscopic procedures enhance hematogenous or lymphatic dissemination? Several reports have indicated several mechanisms as cause of port recurrence such as tumor manipulation (14), forced extraction of the specimen, neoplastic cells' contamination of instruments, CO₂ leaking around trocars, local ischemia. (15, 16, 17). According with other literature reports (11) we consider that in this case bile spillage could have represented an important factor resulting in port site relapse of the neoplastic disease.

The cases of port site tumor implantation don't answer the debate surrounding the treatment of unsuspected gallbladder carcinoma, but raise important questions about the future role of "minimal invasive procedures" in the management of oncologic patients.

Peritoneal and port seeding of neoplastic cells after laparoscopic surgery can represent an increasing problem in diffuse laparoscopic procedure as laparoscopic cholecystectomy. Besides this risk is present not only in advanced stages of gallbladder carcinoma but even in same cases of early stage cancers. We must consider, moreover, that it is possible in this early stage case to misjudge, even histologically, a cancer with an adenomiosis with severe inflammatory processes.

After a laparoscopic cholecystectomy all specimen should be opened and inspected. If there is a gallbladder wall irregularity and if there was a bile spillage it is advisable to perform a peroperative histologic examination. If this examination is positive for malignancy (also in early stage) a trocar port site with large margin excision has to be performed and perhaps a peritoneal washing with cytostatic drugs.

Further studies and clinical trials are needed for avoiding this fatal complication. An adequate acknowledgment of the mechanisms cause of seeding of neoplastic cells is mandatory prior to widespread usage of mini invasive procedures in the management of oncologic patients.

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