

Port-site metastasis after laparoscopic cholecystectomy

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To the Editor,

Laparoscopic cholecystectomy (LC) has become the standard treatment method for benign diseases of the gallbladder. With the increasing number of laparoscopic procedures many unexpected gallbladder carcinomas during or following the procedure are diagnosed. Port-site metastasis after laparoscopic cholecystectomy is a rare condition (1). Herein, we report a case of port-site metastasis after laparoscopic cholecystectomy for benign gallbladder disease in a patient with an occult cholangiocellular carcinoma.

A 73-year-old man had recurrent abdominal colic and typical symptom of cholelithiasis without jaundice. The laboratory tests were within normal limits. Abdominal ultrasonography revealed a diffusely thickened wall of the gallbladder with several gallstones. Laparoscopic cholecystectomy was performed in December 2002 for chronic cholecystitis due to cholelithiasis. The histopathological examination of the surgical specimen was benign. 18 months after laparoscopic cholecystectomy, the patient was readmitted complaining of pain, tenderness and a granulation on the trocar site at the umbilicus. Skin lesion was excised and the histopathology was reported as well differentiated adenocarcinoma. On October 2004, there had been another nodular lesion on the abdominal wall, which was also reported as malignant.

On December 2004 the patient has presented to us with jaundice, abdominal pain and fever. The liver enzymes were elevated. The markers for acute hepatitis were negative. Intrahepatic biliary tract dilatation was seen on abdominal ultrasonography. ERCP was performed showing intrahepatic biliary tract dilatation and stricture at the level 20 mm distal to the hilus. A plastic biliary stent was implanted. At 6 months follow-up, stenting was done for three times due to cholangitic attacks. On April 2005, thoracic computer tomography revealed a metastatic lesion in the lung. The patient died seven months later because of multiorgan failure from sepsis.

As LC has become wide-spread, patients diagnosed with gallbladder cancer either during or after LC have been reported sporadically. The frequency of preoperatively undiagnosed gallbladder carcinoma in patients undergoing LC is 0,3 % to 0,9 % (1). There are also

published reports of port-site metastasis after LC originating from latent non-gallbladder tumors, such as primary tumors of the colon, ovary and pancreas (2,3). The port used for gallbladder extraction is the most common site of recurrence. The outcome for patients with port-site metastasis of gallbladder carcinoma is poor with an overall 2-year survival rate of 18,5 % (1,4).

Some underlying causes for port-site metastasis after LC including hematogenous spread, pneumoperitoneum, CO₂, aerosolisation, local immune reaction, chimney effect, surgical technique and wound implantation have been described (5-9). Extraction of the specimen through a small wound may increase tissue trauma, which may play a role in dissemination (5). The high solubility of CO₂, commonly used gas for insufflation during laparoscopic surgery, may promote tumor growth in the subcutaneous tissue. Increasing the pneumoperitoneal pressure may increase instrument contamination and incisional tumor recurrence (6). Since cellular and humoral immunity is better protected with less invasive laparoscopic approaches to the abdominal cavity than with laparotomy, failure of activation of the immune system may encourage port-site recurrences (7,8). The chimney effect refers to the increase in the number of tumor cells at the port-sites caused by leakage of gas along the trocars. Insufflation causes turbulence and displaces exfoliated tumor cells due to microleakages around ports. The intraperitoneal tumor cells migrate to this area of turbulence and then implant at these sites.

Port-site recurrence is generally a very rapid process and in most previous reports a diagnosis in most cases is made from 1 to 6 months after LC. Most patients with such recurrence died of the disease (1). These findings imply that abdominal wall recurrence is a manifestation of the aggressive behaviour of malignancy. A few cases have been reported that first sign of port site recurrence was observed 2 years after LC and these patients survived after a resection of the abdominal wall tumor (10).

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In our case the first sign of a recurrent tumor was recognized 18 months after LC. The reason for the slow growth of the tumor might be that the seeded cancer cells had a low malignant nature. It is thought that there was an occult cholangiocellular carcinoma while the first operation was performed. Before the symptoms of cholangiocellular carcinoma, the port-site metastasis was detected.

Although LC is widely accepted as a safe, port site metastasis may become a problem. We recommend all pathologies on the port-site should be investigated. It may be the first sign of an intra abdominal occult malignancy.

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