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Case Report

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Elevated Ca 19-9 Levels in Patient With Cholecystitis

Mehmet ŞAHİN[1], Erkan CÜRE [a1], Mehmet İŞLER[2], İbrahim BARUT[3]

[1]*Süleyman Demirel Üniversitesi Tıp Fakültesi İç Hastalıkları Anabilim Dalı,*

[2]*Süleyman Demirel Üniversitesi Tıp Fakültesi Gastroenteroloji Anabilim Dalı,*

[3]*Süleyman Demirel Üniversitesi Tıp Fakültesi Genel Cerrahi Anabilim Dalı, ISPARTA*

ABSTRACT

Although CA 19-9 is a tumour marker, high levels of CA 19-9 have also been reported in benign conditions such as acute cholangitis or pancreatitis. We present here a 56-year-old woman with complicated cholecystitis due to gallstone and elevated serum CA19-9 levels. After cholecystectomy procedure CA19-9 level returned to normal. The level of CA 19-9 should never be regarded as a gold standard but rather as a helpful indicator when searching pancreatic and biliary malignancies. *©2007, Firat University, Medical Faculty*

Key words: *CA 19-9, cholecystitis, benign disease*

ÖZET

Kolesistitli Bir Olguda Yüksek Ca 19-9 Seviyesi

CA 19-9 bir tumör belirleyicisi olarak kullanılmasına rağmen akut kolanjit ve pankreatit gibi benign durumlarda da yüksek düzeyleri bildirilmiştir. Bu vakada 59 yaşında safra taşına bağlı komplike olmuş bir kolesistit ile birlikte yükselmiş CA 19-9 düzeyine sahip bir hastamızı sunuyoruz. CA 19-9 düzeyi kolesistektomi sonrasında normale döndü. CA 19-9 düzeyi altın standart bir test olmamakla birlikte, pankreas ve safra kesesi malignitelerini araştırmada yardımcı bir test olarak kabul edilmelidir. *©2007, Fırat Üniversitesi, Tıp Fakültesi*

Anahtar kelimeler: *CA 19-9, kolesistit, benign hastalık*

Carbohydrate antigen 19-9 (CA 19-9) is a glyco-sphingolipid of the Lewis blood group. It has been used as a useful serum tumor marker for malignancy of the upper gastrointestinal tract, especially those of the pancreas and biliary tract even though it is well known that its diagnostic specificity is low (1-4). High levels of serum CA 19-9 have also been reported in both malignant and benign conditions. We present here a case with marked elevation of CA 19-9 levels in a benign biliary tract disease.

CASE REPORT

A 56 years-old woman was admitted to our department because of a history of intermittent epigastric and upper right quadrant pain and nausea associated with food intake, for two months. On admission, temperature was 37°C, blood pressure was 110/70 mmHg, and pulse rate was 76/min. Physical examination revealed tenderness localized in the right hypocondrium. She had obesity (Body mass index: 35). The remaining physical examination was normal. Complete blood count showed WBC 9760 /mm^3, platelets 295,000 /mm^3 and hemoglobin 13,8 g/dl. Erythrocyte sedimentation rate was 50 mm/h on admission.

Biochemical tests revealed a mild increase in ALP 135 U/L , while other tests were within normal limits; AST 22 U/L, ALT 26 U/L, GGT 69 U/L, amylase 37 U/L, lypase 25 U/L, total bilirubin 0.51 mg/dl. Serum carcinoembryonic antigen (CEA) was 1.73 ng/ml, and alpha-fetoprotein was 9.6 IU/ml. CA 19-9 was found elevated as 500 U/ml (normal, 0-29 U/ml). Abdominal ultrasonography revealed a heterogenous, dense material located in the gall bladder, and multiple stones (more than 1 cm in diameter) in the gall bladder with a normal biliary tree. In addition, the wall of gall bladder was diffusely thickened (5 mm). Abdominal computed tomography (CT) confirmed US findings. Magnetic resonance imaging of the abdomen with cholangiographic reconstruction also confirmed US and CT findings. Common bile duct and pancreas were normal. Upper gastrointestinal endoscopy showed mild esophagitis, hiatal hernia and antral gastritis. Radiographic imaging of small bowel with barium was normal. Colonoscopy, which is performed to exclude colonic malignancy showed multiple diverticula on the descending colon. Repeated serum CA 19-9 levels were found elevated as high as 9864 U/ml. Serology for hepatitis B and C, Cytomegalovirus, and Epstein-Barr virus were negative. She was diagnosed as acute cholecystitis with lithiasis.

[a]Corresponding Address: Erkan Cüre, Süleyman Demirel Üniversitesi Tıp Fakültesi İç Hastalıkları Anabilim Dalı, ISPARTA

* 20. Ulusal Gastroenteroloji Haftası 30 Eylül- 5 Ekim 2003 Kuşadası

Tel: +90 246 2112651 e-mail: erkancure@yahoo.com

Laparotomy and cholecystectomy were performed a few days later. At laparotomy, the gall bladder was observed as edematous, grossly thickened and adherent to the omentum, duodenum and colon. During this procedure, gall bladder was perforated, drained purulan material and multiple adhesions were found around the gall bladder which was carefully lysed. Histopathology of the gall bladder and pancreas was negative for malignancy. The patient recovered completely within two weeks and CA 19-9 levels returned to normal (11.23 U/ml) 18 days after the operation. The patient is healthy now after 24 months.

DISCUSSION

Tumor markers produced by neoplastic and embryonal cells were originally studied in an attempt to develop a screening test for early diagnosis of cancer. However, low specificity for malignancy, high levels in benign conditions is limitations for their usage. CA 19-9 can be found in 15-36% of patients with benign processes, such as acute pancreatitis, chronic pancreatitis, chronic liver disease, Mirizzi's syndrome, and inflammatory liver pseudotumor. However, marked elevations are essentially limited to cirrhosis and acute cholangitis (5-9). Kim et al. reported a serum level of > 37 U/ml in only 157 of 20,035 cases (0.78 %) (10). Extremely high levels of CA 19-9 are observed rarely and there have been some case reports. Akdogan et al (2) reported a patient who had cholangitis and a pancreatic pseudocyst with an elevated CA 19-9 level up to 35,500 u/ml. Katsanos et al (9) have reported four cases with elevated serum CA 19-9 levels in benign biliary tract diseases. These abnormal CA 19-9 levels, especially the highest ones, are reported to return to normal about 3 weeks after the therapeutic intervention. Lin et al (11) reported Mirizzi's syndrome with high CA 19-9 levels (44 000 U/ml), which returned to normal 15 days later. In the setting of acute inflammatory processes, elevated values generally return to normal after the inflammatory process resolves (5-9).

The case with elevated CA 19-9 levels in a benign biliary tract disease with gallstone presented cholecystitis is reported here. Interestingly, clinical and biochemical findings were not so prominent in our case. Elevated levels of CA 19-9 were prompted us to perform further evaluation to exclude malignancy. Other tests for malignancy of gastrointestinal tract were found negative. In our case, CEA was within normal limits. These abnormal CA 19-9 values returned to normal 18 days after cholecystectomy. Although marked elevations have been reported in the presence of cholangitis, no sign of cholangitis was found in our case (7,12). The elevation of CA 19-9 levels seen in cholecystitis may be due to increased production of it from the inflamed epithelial cells and its decreased hepatobiliary clearance. Thus, serum CA 19-9 levels decrease when infection resolves (7,12). In such cases CA 19-9 should be nearly followed-up.

High levels of CA 19-9 could mislead to the diagnosis of pancreatic or biliary malignancy, despite the lack of radiological, surgical and endoscopic evidences. This case emphasizes the need for caution in the interpretation of an elevated serum CA 19-9 level as a marker for malignancy. In our patient, the elevation was due to cholecystitis rather than a malignant process. The level of CA 19-9 should never be regarded as a gold standard but rather as a helpful indicator when searching for malignancy.

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