

FATAL OUTCOME OF RETAINED SURGICAL INSTRUMENT FOLLOWING ABDOMINAL SURGERY: AN AUTOPSY CASE

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ABSTRACT

Retained surgical sponges, instruments and drains following abdominal surgery may be responsible for many post-operative complications such as bowel obstruction, peritonitis, adhesions, abscess formation and fistulas. While some patients may remain asymptomatic for a long time, some patients may die due to these complications. Though there are many reports on retained surgical sponges, there are not so many reports on retained surgical instrument-

associated deaths. The present case report describes a patient who was operated for hydatid cyst of liver and was reoperated due to retained surgical instrument 3 months later and was found to possess a Kocher clamp that compressed the ileum causing necrosis and peritonitis. Following this second operation the patient died in early postoperative period and generalized peritonitis was detected at the autopsy.

• **Key Words:** Retained surgical instrument, peritonitis, death, autopsy. Nobel Med 2007; 3(1): 27-29

ÖZET

BATIN CERRAHİSİ SONRASI BATINDA UNUTULAN CERRAHİ ALET KAYNAKLI ÖLÜM: BİR OTOPSİ OLGUSU

Batın cerrahisi sonrasında batında unutulmuş cerrahi aletler, gaz kompres ve drenler barsak tıkanıklığı, peritonit, yapışıklıklar, apse oluşumu ve fistüller gibi birçok ameliyat sonrası komplikasyona neden olabilmektedir. Bu durumlarda hasta uzun bir süre boyunca semptomsuz kalabileceği gibi bu komplikasyonlar ölüm sebebi dahi olabilir. Ameliyat sonrası unutulmuş gaz kompreslerle ilgili çok sayıda

yayın mevcuttur, ancak cerrahi aletlerin unutulması kaynaklı ölümlerle ilgili az sayıda yayın bulunmaktadır. Bu olgu sunumunda karaciğer kist hidatiği tanısıyla ameliyat edilen ve girişimden 3 ay sonra şikâyetleri üzerine yapılan tetkiklerinde batında yabancı cisim tanısıyla tekrar ameliyat edilen ve batında unutulmuş Kocher klempinin ileumu komprese ederek nekroz ve peritonite neden olduğu tespit edilen 32 yaşında bir erkek olgu sunulmuştur. İkinci ameliyattan sonra erken dönemde ölen olgunun otopsisinde yaygın peritonit saptanmıştır.

• **Anahtar Kelimeler:** Unutulmuş cerrahi alet, peritonit, ölüm, otopsi. Nobel Med 2007; 3(1): 27-29

INTRODUCTION

The surgical sponge retained following intra-abdominal surgery is a continuing problem and despite all precautions in operating room, this problem still upsets the surgeons and patients.¹ The incidence of retained surgical sponges has been reported to vary between 1/100 and 1/3000 surgical interventions.³

Various types of foreign bodies have been reported to be retained such as sponges, forceps, broken instrument parts, rubber tubes, towels and etc. The most commonly surgically retained foreign body is reported to be laparotomy sponge and clinical presentation of these cases vary from incidental finding on plain radiographs to intense inflammatory response leading to perforation or obstruction.⁴ Among the complications reported following surgical retained instruments are obstruction, peritonitis, adhesions, fistula formation and abscess. In one study of these cases, the mortality rate was reported to be 10%.⁵

Because of the fact that retained surgical instrument-associated cases with fatal outcome are rarely seen, it is intended to share this case with discussion about precautions against this potentially fatal condition.

CASE REPORT

A 32-year-old male patient was referred to emergency service of a Public hospital with the complaints of abdominal cramps and signs of intestinal obstruction. After detailed examination and laboratory analysis, an initial diagnosis of ileus was decided and in plain abdominal radiographs a surgical instrument was detected (Figure). There was a history of abdominal surgery 3 months ago for hepatic hydatidosis.

After initial evaluation and routine analyses, he was operated in emergency settings. During the operation, a Kocher clamp compressing the ileum was detected. Surrounding tissues around the foreign body were found to show inflammatory changes. The affected necrotic segment of intestine was resected but the patient died in the recovery room.

Because of the allegation of negligence and malpractice of surgeons of the first operation, the case was accepted as a forensic case and an autopsy was carried on the decedent. At autopsy, the only pathological finding in the thorax was the pleural effusion and hyperemic changes in gross and microscopic analysis of the brain. In abdominal

organs there were signs of past surgery on the liver and inflammatory changes were detected in abdominal organs and histopathological analysis of intestines showed edematous enlargement in submucosa, fresh bleeding areas, widespread inflammatory infiltration predominating polymorphonuclear leucocytes, fibrinous peritonitis, focal foreign body reaction.

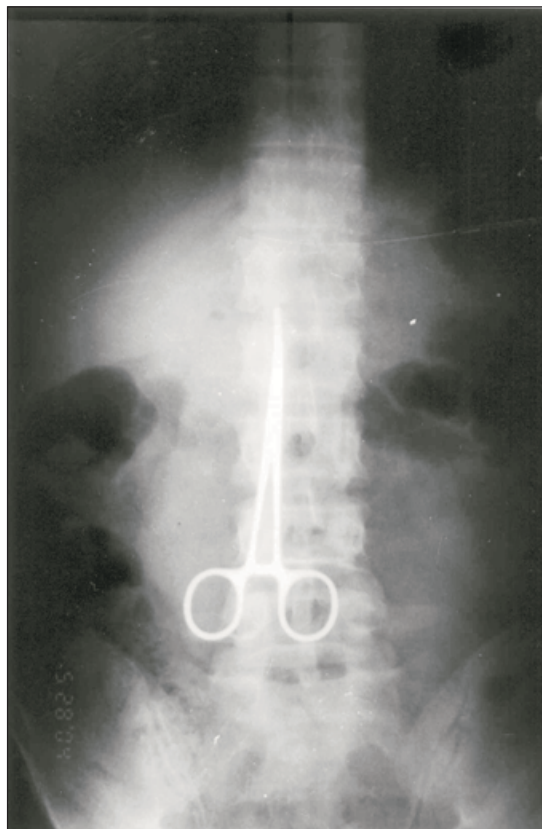


Figure Plain radiograph showing the retained Kocher clamp in abdominal region

DISCUSSION

Retained foreign bodies, mostly the surgical sponges, following a surgical intervention are a continuing problem and despite the all precautions during surgery it is still being reported especially after abdominal and pelvic surgeries.^{1,4,6} In reported cases, surgical sponges constitute the majority of the retained foreign bodies.⁷

Because the depth of the operating region facilitates the disappearance of sponges upon mixing with blood, these cases are usually the cases of abdominal and pelvic surgery.⁴ The presentation of the retained surgical material and the time before the onset of symptoms vary highly and the time interval between the initial and second operation for retained material was reported to range from 10 days to 19 years.^{8,9} →

During this interval, the patient may be asymptomatic or symptoms such as abdominal pain, postoperative ileus, and abscess formation may be seen. In a study of 24 consecutive cases treated in a 10-year period for retained foreign bodies following surgery, it was reported that all cases were symptomatic (intraabdominal sepsis in 8, abdominal pain in 3, persistent sinus and granuloma in 2, abdominal palpable mass in 2 and vaginal discharge in 1) and morbidity being 50% and mortality almost 10%.⁵

In another study of retained surgical material cases excluding the ones with foreign bodies other than surgical sponges, modes of presentation were reported to be intestinal obstruction in 58.33%, discharging sinus in 41.67%, intraabdominal abscess in 16.67%, peritonitis in 16.67%, and abdominal mass in 8.33%. In this study there was one death of total 12 cases and authors emphasized the potential lethality of these cases.⁶ In our case the duration between first and second operation was 3 months and the presentation complaints were abdominal pain and signs of intestinal obstruction. The prior surgery in this case was an abdominal surgery for hepatic hydatid disease.

Besides the retained surgical sponges, there are also reported cases of retained surgical instruments. In one of these cases the retained T-tube fragment encased within a stone had caused delayed cholangitis.¹⁰ In a study targeting to determine the risk factors for retained instruments and sponges after surgery, 54 cases were evaluated and in 69% of cases the retained material was sponge and in 31% was instrument. In this study, risk of retention of a foreign body after surgical intervention was reported to increase in emergencies, with unplanned changes in the procedure and with higher body-mass index.⁷

Despite of being a rare situation, retained surgical material presents as a very serious problem to patients with high rates of morbidity and mortality (just as our case) and prevention is the only key for solving this problem. Thus, not only the counting of surgical sponges but also the surgical instruments is very important and the surgeon should not unquestioningly accept count reports, but should develop the habit of performing a brief but through routine post-procedure wound-body cavity exploration before closing the incision.



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