Small-Bowel Necrosis 
Following Laparoscopic Cholecystectomy: 
a Clinically Relevant Complication?

A 65-year-old woman presented with right upper quadrant abdomi-
nal pain after a ten-year history of cholecystolithiasis. Preoperative 
ultrasound studies showed numerous gallbladder stones of varying 
size and nondilated bile ducts.

During a 90-minute laparoscopic cholecystectomy, multiple adhe-
sions and inflammatory tissue in the area of the infundibulum and 
the cystic duct were removed using electrocautery. After this, an 
intraoperative cholangiogram was normal. The procedure was ter-
mminated laparoscopically without any further complications.

On the second postoperative day, the patient complained of bilateral 
upper quadrant abdominal pain radiating to the back. This was 
accompanied by leukocytosis (13.100 ml) and a rise in serum bi-
lirubin (2.98 mg/dl). Endoscopic retrograde cholangiopancreato-
graphy (ERCP) on the third postoperative day showed endoscopically 
a swollen papilla of Vater with numerous necrotic areas 
measuring about 3–4 cm in diameter in the duodenal bulb and 
descending duodenum (Figure 1). After therapy with antacids and 
antiinfectives, laboratory findings returned to normal within four days. 
A control gastro-duodenoscopy after two weeks showed complete 
healing of the necrotic areas, partially with scars.

In contrast to the bipolar technique, monopolar techniques used 
for coagulation and electrotomy can cause aberrant currents di-
rected toward the neutral electrode (1–3). It was speculated that 
this mechanism may cause extensive tissue necrosis and lead to 
iatrogenic functional stenosis (4). The appearance of extensive adhe-
sions and scar tissues at the site of surgery can predict the risk 
of injuries due to an uncontrolled and overlong duration of current 
flow and tissue resistance. Bipolar high-frequency techniques are 
preferable in such cases.

Figure 1 a,b: Side-viewing endoscopy, 
showing a swollen papilla and multiple areas 
of deep necrosis in the descending duo-
denum. The ERCP showed a slightly dilated 
bile duct without stones, and a normal 
pancreatic duct.

References

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