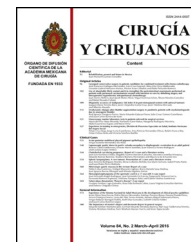




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## ORIGINAL ARTICLE

# Efficiency of laparoscopic vs. endoscopic management in cholelithiasis and choledocholithiasis. Is there any difference?☆

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### KEYWORDS

Surgery;  
Cholelithiasis;  
Choledocholithiasis;  
Cholangiopancreatography endoscopic retrograde;  
Laparoscopic cholecystectomy;  
Laparoscopic common bile duct exploration

### Abstract

**Background:** Concomitant cholelithiasis and choledocholithiasis is a disease where incidence increases with age and can have serious complications such as pancreatitis, cholangitis and liver abscesses, but its management is controversial, because there are minimally invasive laparoscopic and endoscopic surgical procedures.

**Objective:** To compare the efficiency in the management of cholelithiasis and choledocholithiasis with laparoscopic cholecystectomy with common bile duct exploration vs. cholangiopancreatography endoscopic retrograde + laparoscopic cholecystectomy.

**Material and method:** Retrospective analysis of a five year observational, cross sectional multicenter study of patients with cholelithiasis and concomitant high risk of choledocholithiasis who were divided into two groups and the efficiency of both procedures was compared. Group 1 underwent laparoscopic cholecystectomy with common bile duct exploration and group 2 underwent cholangiopancreatography endoscopic retrograde + laparoscopic cholecystectomy.

**Results:** 40 patients, 20 were included in each group, we found  $p=0.10$  in terms of operating time; when we compared hospital days we found  $p=0.63$ ; the success of stone extraction by study group we obtained was  $p=0.15$ ; the complications presented by group was  $p=0.1$  and the number of hospitalizations by group was  $p \leq 0.05$  demonstrating statistical significance.

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**PALABRAS CLAVE**

Cirugía;  
 Colelitiasis;  
 Coledocolitiasis;  
 Colangiopancreatografía  
 retrógrada  
 endoscópica;  
 Exploración de vía  
 biliar laparoscópica;  
 Colectomía  
 laparoscópica

**Conclusions:** Both approaches have the same efficiency in the management of cholelithiasis and choledocholithiasis in terms of operating time, success in extracting stone, days of hospitalization, postoperative complications and conversion to open surgery. However the laparoscopic approach is favourable because it reduces the number of surgical anaesthetic events and the number of hospital admissions.

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## Eficiencia del manejo laparoscópico vs. endoscópico en colelitiasis y coledocolitiasis. ¿Existe diferencia?

**Resumen**

**Antecedentes:** La colelitiasis y coledocolitiasis concomitante es una enfermedad que aumenta su incidencia con la edad y puede presentar complicaciones graves como: pancreatitis, colangitis o abscesos hepáticos. Su manejo es controversial, ya que existen métodos de mínima invasión laparoscópicos y endoscópicos.

**Objetivo:** Comparar la eficiencia en el manejo de colelitiasis y coledocolitiasis con colecistectomía laparoscópica con exploración de vía biliar vs. colangiopancreatografía retrógrada endoscópica + colecistectomía laparoscópica.

**Material y método:** Análisis retrospectivo de 5 años observacional, transversal, multicéntrico, de pacientes con colelitiasis y alto riesgo de coledocolitiasis, quienes se dividieron en 2 grupos, y se comparó la eficiencia de ambos procedimientos. El grupo 1 fue manejado con colecistectomía laparoscópica con exploración de vía biliar y el grupo 2 con colangiopancreatografía retrógrada endoscópica + colecistectomía laparoscópica.

**Resultados:** Se incluyó a 40 pacientes, 20 de cada grupo, se encontró una  $p=0.10$  en cuanto al tiempo quirúrgico, al comparar los días de hospitalización se encontró una  $p=0.63$ , el éxito de la extracción de litos por grupo de estudio obtuvo una  $p=0.15$ , las complicaciones presentadas por grupo mostraron una  $p=0.1$  y el número de hospitalizaciones por grupo presento una  $p \leq 0.05$ , demostrando significación estadística.

**Conclusiones:** Ambos abordajes presentan la misma eficiencia para el manejo de la colelitiasis y coledocolitiasis en cuanto al tiempo quirúrgico, éxito en la extracción de lito, días de hospitalización, complicaciones postoperatoria y conversión a cirugía abierta, sin embargo, el abordaje laparoscópico es favorable, ya que disminuye el número de eventos anestésico-quirúrgicos y el número de internamientos hospitalarios.

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**Background**

In Western societies cholelithiasis is present in approximately 15% of patients. Incidence of choledocholithiasis is between 5% and 10% in patients who have undergone laparoscopic cholecystectomy due to symptomatic cholelithiasis,<sup>1,2</sup> between 18% and 33% in patients with acute biliary pancreatitis and between 21% and 34% when choledocholithiasis is secondary to spontaneous stone migration. Choledocholithiasis increases in incidence with age, and is higher than 80% in elderly people over 90.<sup>3,4</sup>

Within the natural evolution of this disease, there are complications such as biliary pancreatitis, cholangitis or liver abscesses.<sup>3,5-7</sup>

During primary evaluation liver function tests should be included<sup>8,9</sup> and ultrasound images, which have a sensitivity rate of 77–87% to detect dilatation of the bile duct, an

event which is commonly associated with choledocholithiasis patients.<sup>3,10</sup>

Other imaging studies are computed tomography, which has a sensitivity rate of between 65% and 88% and specificity of 73–97% for choledocholithiasis, and cholangioresonance with sensitivity of between 85% and 92% and specificity between 93% and 97% for the detection of choledocholithiasis. However, this sensitivity drops down to 33–71% in the presence of stones under 6 mm. Endoscopic ultrasound has a sensitivity of between 89% and 94% and specificity of between 94% and 99% to detect choledocholithiasis. Laparoscopic ultrasound sensitivity is between 71% and 100% and specificity between 96% and 100%. However, all of these studies are higher in cost than ultrasound.<sup>8,11</sup>

For the study of patients with suspected choledocholithiasis a combination of clinical and laboratory features (liver function tests) are required, together with ultrasound

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