# SURGICAL TECHNIQUES FOR THE HEPATOBILIARY DISEASE IN SMALL ANIMALS. BIBLIOGRAPHIC REVIEW

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## INTRODUCTION

In the lasts years, it has been seen that there are an increasing number of pathologies affecting the hepatobiliary system in the canine specie, and the election treatment for some of them is the surgery.

In human medicine, the biliary surgery is usually performed, unlike in the small animal practice. That is why a lot of improvement can be done in this field.

## OBJECTIVES

- Determine the most frequent hepatobiliary pathologies in the canine specie.
- Revise the surgical techniques more frequently used in the hepatobiliary disease.
- Evaluate the applicability of minimally invasive techniques in the hepatobiliary disease in dogs.

## REVIEW

- **Cholecystectomy:** removal of the gallbladder.

**OPEN**
Principal technique in the hepatobiliary system in the canine specie.
Used in mucoceles, cholecystitis, colelits and pathologies where the gallbladder is the primary cause.
The adverse effects are not well described in small animals.

**LAPAROSCOPIC**
Used when there is not a gallbladder rupture, nor obstruction or rupture of the biliary tract.
**Contraindicated in:** disseminated intravascular coagulopathy, extrahepatic biliary obstruction, animal size <4kg and patients with no tolerance to anaesthesia.

| | SURGICAL TIME | MORTALITY | COMPLICATIONS | SURVIVAL |
|---|---|---|---|---|
| Better in | Open | Laparoscopic | Laparoscopic | Laparoscopic |

- **Biliary deviation:** indicated when de choledochal duct is obstructed o traumatized and the gallbladder is not affected.

**CHOLECHISTOENTEROSTOMY**
Biliary deviation by opening the gallbladder and suturing it to an intestinal portion (duodenum or jejunum). It allows the normal physiology of the gastrointestinal system.
The most frequently used is the mucosal apposition with monofilament, absorbable and simple suture.
Complications associated: cholangitis and retrograde septic choledochitis.

**CHOLEDOCHODUODENOSTOMY**
Not usually performed, due to the short choledochal size in small animals.
It can be used when there is a distal benign obstruction in the biliary duct. The choledochal duct is separated from its normal location and implanted in the duodenum.

- **Biliary stents:** Consists on the catetherize of the choledochal duct via duodenal. It maintains the normal biliary tree anatomy.

**INDICATIONS**
- Decompress extrahepatic biliary obstructions to stabilize the patient.
- Treatment for malign biliary pathologies.

**COMPLICATIONS**
Stent obstruction, formation of structures in the stent and cholangitis.
Mortality: 30,7% in dogs and 28% in cats.

**MATERIALS**
The stents can be made of plastic or metallics (covered or non-covered). The most used in veterinary are the plastic ones.

**OPEN VS LAPAROSCOPIC**
It can be done with the open technique or endoscopy (in veterinary practice is difficult due the endoscopies prices and sizes).

## CONCLUSIONS

- The more frequent hepatobiliary pathology in the canine specie is the mucocele. More over, is the most frequently solved surgically.
- The cholecystectomy is the procedure more used in the hepatobiliary disease in dogs.
- The laparoscopic procedures are not so used in veterinary medicine, even though there are studies proving the efficacy.