

# ISIRR 2003

## INTRAPERITONEAL BILIARY CALCULI – EXPERIMENTAL AND CLINICAL STUDY

J. AVRAM, F. CĂDARIU, S. MANCIU, M. RUICU, E. FLORONI,  
H. MUQAYAD, M. PASZTORI, A. MERCE, I. O. AVRAM

First Clinic of Surgery, University of Medicine and Pharmacy TIMIȘOARA

### **ABSTRACT:**

*„Lost” intraperitoneal biliary stones are described as laparoscopic cholecistectomy complication. The result of this complication and the requirement of putting them out by exploratory laparotomy are in discussion. The experimental study was carried out on 40 white rats, Wistar race. We carried out a median mini-laparotomy in general anesthesia and we introduced biliary stones or fragments of them.*

*Postoperative evolution was good and we re-operated them after 6 weeks respectively 3 month. When we looked in the peritoneal cavity we observed the blocking of the biliary stones by the omentum and their omento-parietal adherence. The histopathologic exam showed: lax conjunctive tissue, which presents an important histiomacrophagic infiltration with foaming cells of xantomatous type (which have incorporated apparent lipidic substance).*

*In our recent experience we had 2 cases with intraperitoneal biliary stones. We consider, on the basis of our experimental and clinical study that the intraperitoneal “loosing” of the little biliary stones is an “incident” and it does not require exploratory laparotomy for putting them out.*

### **KEYWORDS:**

*biliary intraperitoneal stones, laparoscopic cholecistectomy.*

### **1. INTRODUCTION**

In Romania we cure biliary lithiasis almost always by surgical means- so laparoscopic cholecistectomy is the preferred technique used (preferred by patients and also by the physician because this method became an alternative and very popular method). One of the intraoperative incidents is the loose of the biliary stones in the peritoneal cavity.

The evolution and the intraoperative attitude for this incident are discussed and the necessity for the finding of the "lost" intraperitoneal stones and their extraction is in the debate.

The methods for extraction are: direct with the tourniquet, using the "basket" procedure, by laparotomy.

In the medical literature some complications in these cases were cited like:

- granuloma
- peritoneal and retroperitoneal abscess
- extern biliary fistula
- late intestinal occlusion
- cholelithoptisis

## 2. MATERIAL AND METHOD

We performed an experimental study at the Laboratory of Experimental Surgery and Morphopathology University of Medicine and Pharmacy Timisoara. We used white mice – Wistar race.

We performed median minilaparotomy under intraperitoneal general anesthesia for implantation of biliary stones, clips and suture threads. We performed another laparotomy after 3-6 months and we observed the local structural changes.

We used 4 groups of mice, 20 mice for each group:

- 1-st group: test group;
- 2-nd group: with intraperitoneal biliary stones;
- 3-rd group: with titan clips;
- 4-th group: with suture threads (10.0).

The results of the study were:

- 0 mortality;
- 0 complications;
- a good tolerance of the organism for the biliary calculi;
- the macroscopic anatomo-pathological results: the blocking of the calculi by the epiploon and by the adherence between the epiploon and parietal peritoneum;
- microscopic findings: important histiocytes infiltrate with foamy xanthomatous cells, granulomatous reaction with multinucleate giant cells and discreet cells infiltrate.

We observed recently 2 cases with intraperitoneal biliary "lost" stones in our clinical experience:

1. The patient K.S. (F.O.35838/04.10.2002), 52 years old was operated by laparoscopic method (colecistectomy) 2.5 years ago. The patient was diagnosed with uterine fibroma and we performed total hysterectomy with bilateral anexectomy. When we opened the peritoneal cavity we observed multiple calculi of small sizes (2-5 mm in diameter) adhered at the epiploon, the surface of the both ovaries, salpinxes and at the pelvic parietal peritoneum.

They were tolerated well and there was no macroscopic inflammatory reaction. The histopathological exam of the ovary revealed hyaline transformation and calcification regions with blackberry like aspect without inflammatory infiltrate.

2. The patient S.M. (F.O. 23581/14.05.2001), 40 years old, operated laparoscopic for biliary stones (cholecistectomy), 3 years ago, were hospitalized for polycystic left ovary. We performed left ovariectomy. When we explored the peritoneal cavity we observed 4 solid bodies with biliary stones aspect (with 2-5 mm diameter) on the left ovary, 5 calculi in Douglas, without local inflammatory reaction.

Concerning the "lost" intraperitoneal biliary stones after laparoscopic surgery, we observed that abdominal symptoms determined by the adherence of the calculi at different viscera didn't appear. We discovered them when we performed laparotomy for another pathologies. We state that the intraperitoneal "loosing" of some little calculi after laparoscopic cholecistectomy is an "incident" and it doesn't require exploratory laparotomy for their extraction. Also the inflammatory reaction, which is minimal and rare, is not a reason for the conversion of the surgery to a classical mean.

### 3. CONCLUSIONS

In the First Clinic of Surgery we observed, studying a group of over 1500 patients who underwent laparoscopic cholecistectomy, the advantages of this procedure comparing with the classic approaches: minor and rare intraoperative complications, short period of hospitalization (3-5 days), the decreased cost for the postoperative medical assistance and the quick cure and returning to normal life. Another advantage is the decreased operator trauma comparing with the classic approach. The patients even in the presence of another associated pathology more easily tolerate the method.

The factors, which may influence the rate of postoperative complications, are the advanced age, the anatomo-pathologic form of cholecistitis and another associated diseases.

The laparoscopic cholecistectomy was for a long time contraindicated at cases with acute cholecistitis because of the difficulties of identifying the anatomic elements and also because of the increased risk of iatrogenous lesions.

Now this method is used also for these cases due to the experience obtained in time by the surgeons.

### 4. REFERENCES

1. M.J.Asbun, R.L.Rossi, J.A.Lowell, J.L.Munson; *"Bile Duct Injury during Laparoscopic Cholecystectomy: Mechanism of Injury, Prevention and Management"*, *World J. Surg.*, 17, 1993.

2. R.W.Bailey; *"Complications of Laparoscopic General Surgery"*, Zucker: *Surgical Laparoscopy*, Quality Medical Publishing, Inc. (St. Louis, Missouri), 1991.
3. J.L.Flowers, R.W.Bailey, W.A.Scovill, K.A.Zucker; *"The Baltimore Experience with Laparoscopic Management of Acute Cholecystitis"*, *A.J.Surg.*, 161, 1991.
4. J.B.Petelin; *"New Advances in Laparoscopic Surgery"*, *Second Annual International Minimal Access. Surgery Symposium* (Kansas City, Missouri), 1992.
5. N.J.Soper; *"Laparoscopic Treatment of Gallstones"*, *Advances in Minimally Invasive Surgery*, World Medical Press (New York, Bruxeles), 1992.