

Bile duct injuries during laparoscopic cholecystectomy

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This paper is based upon the fact that bile duct injuries during laparoscopic cholecystectomy are still reported with greater frequency than during open cholecystectomy. Consequently the authors conducted a retrospective study evaluating the incidence of such injuries during laparoscopic cholecystectomy in Rome from 1994 to 1998 (group A). In addition a prospective audit was started ending in December 2001 (group B).

The Lap Group Roma is an association of Surgeons founded in 1999 with the aim of investigating the field of laparoscopic surgery in the area of Rome and its province. All the surgical centres of this group received a questionnaire concerning the period of five years between January 1994 to December 1998. They were asked to report the total number of laparoscopic cholecystectomies performed and the total number of conversions to open surgery during that period. No data about open cholecystectomy were requested. Intraoperative cholangiography was performed on a selective basis in all the centres. Specific questions were aimed at disclosing any major injury of the biliary tract. At the same time a prospective audit was started with the aim of recording all bile duct injuries occurring during laparoscopic cholecystectomy up to December 2001.

The questionnaire was returned by 13 centres giving a total number of 6,419 laparoscopic cholecystectomies for group A. During the prospective audit involving 22 centres 7,299 laparoscopic cholecystectomies were performed. There was no significant differences between the two groups regarding conversion, bile duct injury or morbidity and mortality rates.

There were 33 bile duct injuries in a total of 13,718 laparoscopic cholecystectomies. 17 of these injuries occurred in group A and 16 in group B. This gives an overall incidence of 0.24%. There were four deaths out of the 33 bile duct injuries (12.1%). Three of these occurred in group A and one in group B but the differences were not statistically significant.

No clinico-pathologic justification for bile duct injury (simple gallbladder lithiasis treated electively without adhesions, inflammation or anatomic abnormalities) was found in nine of 33 cases (27.3%). No significant differences were found between group A and group B. In the remaining cases chronic cholecystitis with adhesions was present in 12 cases, acute cholecystitis in 7 cases, Mirizzi's syndrome in three cases and cholecystoenteric fistula in two cases without any significant differences in the distribution between the two groups.

24 of the bile duct injuries resulted from direct injury (72.7%); 7 (21.2%) occurred from electrocautery thermal injury and the remaining two (6.1%) from misplacement of clips. The authors give a breakdown of the techniques involved in the cases of bile duct injuries, which instruments were used and whether or not intraoperative cholangiography was performed. There were no significant differences in the distribution for any of these patterns between the two groups.

Overall it would appear that the incidence of bile duct injury, certainly in the Rome area, has stabilized at around the 0.2% mark. There was no significant difference in the retrospective and prospective audit. Obviously a potential source of bias in this study could have come from the lower number of centres participating in the retrospective surgery (group A) because it may have determined an under-reporting of bile duct injuries in this group. However the same 13 centres were also included in group B and from the 3,701 laparoscopic cholecystectomies in the prospective analysis from these centres there were only eight bile duct injuries (0.22%) showing that there was no significant difference at least for these centres. Thus overall it would appear that the conversion rate and incidence of bile duct injuries during laparoscopic cholecystectomy in Rome showed no substantial changes during the 8 year period of the survey suggesting that bile duct injuries are a stable phenomenon during laparoscopic cholecystectomy. The authors note however that a prospective audit and increasing experience with laparoscopic cholecystectomy did not affect the overall incidence of bile duct injury.

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