

AB050. 46. A meta-analysis of the use of intraoperative cholangiography: time to revisit our approach to cholecystectomy

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Background: Despite some evidence of improved survival with intraoperative cholangiography (IOC) during cholecystectomy, debate has raged about its benefit. This meta-analysis evaluated the use and potential impact of IOC during cholecystectomy.

Methods: An ethically approved PROSPERO-registered (ID CRD42018102154) meta-analysis following PRISMA guidelines using PubMed, Scopus, Web of Science and Cochrane library from January 2003 to June 2018 was undertaken including search strategy “intraoperative AND

cholangiogra* AND cholecystectomy”. Articles scoring ≥ 16 for comparative and ≥ 10 for non-comparative using MINORS criteria were included. Revman 5 was used for statistical analysis.

Results: Of 2,059 articles reviewed, 62 met criteria for final analysis. The mean rate of IOC was 38.8% (CI =38.8–38.9; range, 1.6–96.4%). There was greater detection of bile duct stones during cholecystectomy with routine IOC (mean 12.1% range, 2.8–18.9%) compared with selective IOC (mean 4.0% range, 0.7–12.8%) (OR =3.34, CI =2.84–3.92). While bile duct injury during cholecystectomy was less with IOC (0.39%) than without IOC (0.43%), it was not statistically significant (OR =0.91, CI =0.66–1.24, P=0.54, I²=98%) across 9 studies (n=3,121,167 patients). Readmission following cholecystectomy occurred following IOC use in 3.0% compared to 3.5% without IOC (OR = 0.91, CI =0.78–1.06, P=0.15, I²=88%).

Conclusions: This meta-analysis, the first to review IOC use, identified a marked variation in cholangiography use. Retrospective studies limit the ability to critically define association between IOC use and bile duct injury. Surgeons need to revisit IOC use and its implications for the future of biliary surgery.

Keywords: Bile duct injury; cholecystectomy; choledocholithiasis; intraoperative cholangiography; variation in care

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