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# SEVERITY AND PATTERN OF BILE DUCT COMPLICATIONS AFTER DONOR RIGHT HEPATECTOMY: OPEN VERSUS MINIMALLY INVASIVE APPROACHES

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**Background** : Bile duct division in living donor hepatectomy is a critical step that can lead to major postoperative complications. Minimally invasive donor right hepatectomy (MIDRH) has recently become popular worldwide. However, due to technical limitations, the bile duct division in MIDRH differs from that in open donor right hepatectomy (ODRH). This study aimed to compare the patterns of donor biliary complications between MIDRH and ODRH.

**Methods** : This retrospective, single-center study included 284 and 319 donors who underwent MIDRH and ODRH, respectively, between March 2016 and June 2024. The conventional bile duct division method is “clip and cut” in MIDH and “cut and suture” in ODRH, respectively. In MIDH, 16 donors were using “cut and suture” method during bile duct division. Bile duct complications in donors were compared between conventional MIDH and ODRH groups. The management of bile duct complications was analyzed in detai

**Results** : The overall biliary complication rates were similar between the groups (MIDRH 7.8% vs ODRH 6.8%, P= 0.630). However, grade II or higher complications requiring management were significantly higher in MIDRH (4.9% vs 1.9%, P= 0.040). MIDRH tended to have higher rates of major complications (≥ Grade III) than ODRH, though not statistically significant (3.8% vs 1.6%, P= 0.093). Minor complications not requiring management were significantly higher in ODRH (1.9% vs. 6.0%, P= 0.014).

**Conclusions** : MIDRH showed a comparable overall biliary complication rate to ODRH but with greater severity. We suggest that the current bile duct division method in MIDRH requires technical refinement in several aspects.

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