

Impact of Guidewire Caliber on ERCP Outcomes: Systematic Review and Meta-Analysis Comparing 0.025- and 0.035-Inch Guidewires

Muhammad Aziz^{1*}, Amna Iqbal¹, Zohaib Ahmed¹, Saad Saleem¹, Wade Lee-Smith², Hemant Goyal¹, Faisal Kamal¹, Yaseen Alastal¹, Ali Nawras¹, Douglas G Adler³

¹Division of Gastroenterology and Hepatology, Department of Medicine, The University of Toledo, Toledo, OH 43614

²Department of University Libraries, The University of Toledo, Toledo, OH 43614

³Director of Therapeutic Endoscopy and Director of Gastroenterology Fellowship Training Program University of Utah, School of Medicine, Salt Lake City, UT 84132

*Corresponding author: Muhammad.Aziz@utoledo.edu

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Background and Study Aims: The impact of guidewire caliber on endoscopic retrograde pancreatography (ERCP) outcomes are not clear. Recent studies have compared two guidewires, 0.035- and 0.025-inch, in randomized controlled trials (RCTs). We performed a systematic review and meta-analysis of available RCTs to assess if different caliber would change the outcomes in ERCP.

Patients and Methods: A systematic search of PubMed/Medline, Embase, Cochrane, SciELO, Global Index Medicus and Web of Science was undertaken through November 23, 2021 to identify relevant RCTs comparing the two guidewires. Binary variables were compared using random effects model and DerSimonian-Laird approach. For each outcome, risk-ratio (RR), 95 % confidence interval (CI), and P values were generated. $P < 0.05$ was considered significant.

Results: Three RCTs with 1079 patients (556 in the 0.035-inch group and 523 in the 0.025-inch group) were included. The primary biliary cannulation was similar in both groups (RR: 1.02, CI: 0.96-1.08, $P = 0.60$). The overall rates of PEP were also similar between the two groups (RR: 1.15, CI: 0.73-1.81, $P = 0.56$). Other outcomes (overall cannulation rate, cholangitis, perforation, bleeding, use of adjunct techniques) were also comparable.

Conclusion: The results of our analysis did not demonstrate a clear benefit of using one guidewire over other. The endoscopist should consider using the guidewire based on his technical skills and convenience.