TABLE 2. Quantitative results of randomized trials evaluating ICG fluorescence angiography for prevention of anastomotic leakage.

Study	Surgical setting	Study population	AL with ICG	AL in controls	Reported effect estimate (95% CI)	P value
De Nardi et al., 2020 [14]	Laparoscopic left-sided colon and rectal resection	240 analysed	6/118 (5.1%)	11/122 (9.0%)	Not reported in the abstract	0.20
FLAG, 2020 [15]	Stapled colorectal anastomoses	377 analysed	17/187 (9.1%)	31/190 (16.3%)	Not reported in the abstract	0.04
PILLAR III, 2021 [36]	Low anterior resection with anastomosis within 10 cm of the anal verge	347 randomised: 178 ICG; 169 control	9.0%	9.6%	Adjusted OR 0.845 (0.375–1.905)	0.37 for group comparison; 0.34 for adjusted analysis
EssentiAL, 2023 [16]	Minimally invasive rectal cancer surgery	839 analysed	32/422 (7.6%)	49/417 (11.8%)	RR 0.645 (0.422–0.987)	0.041
AVOID, 2024 [17]	Minimally invasive colorectal surgery	931 analyzed	32/463 (6.9%)	42/468 (9.0%)	RR 0.77 (0.50–1.20)	0.24
ICG-COLORAL, 2025 [18]	Laparoscopic colorectal resection, excluding low anterior resection	1,136 analysed	33/567 (5.8%)	45/569 (7.9%)	OR 0.73 (0.48–1.13)	0.16
IntAct, 2025 [19]	Rectal cancer surgery	698 analysed; 766 randomised	36/343 (10.5%)	54/355 (15.2%)	Adjusted OR 0.667 (0.419–1.060)	0.087

AL, anastomotic leakage; ICG, indocyanine green; RR, relative risk; OR, odds ratio; CI, confidence interval. FLAG and EssentiAL report all-grade leakage, whereas AVOID and IntAct report clinically relevant leakage (grades B–C) within 90 days. Population sizes and effect estimates follow the respective study reports. PILLAR III was terminated early because of slow recruitment and did not achieve its planned sample size. Differences in surgical populations, leakage definitions, follow-up, and statistical analyses limit direct comparisons. Event counts are included where verified; PILLAR III rates are presented as reported.