

SAFETY AND EFFICACY OF USING PRONE POSITION VS LEFT LATERAL IN ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY: A SYSTEMATIC REVIEW AND META-ANALYSIS



Adnan Malik, MD1, Waseem Amjad, MD2

¹Mountain Vista Medical Center Mesa Arizona; ²Harvard Medical School MA

BACKGROUND

- The prone position is the most frequently used because it provides better visualization and easier cannulation of the pancreatic and CBD
- However, it is not the optimal position for patients with limited cervical mobility, severe abdominal distinction, ascites, late pregnancy, Parkinson and other conditions that limit the patient movement

AIM

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• We aim to compare the safety and efficacy of the utilization of prone position compared to the left lateral decubitus position in ERCP undergoing patients.

METHODS

- Search engines: PubMed, Web of Science, Scopus, and Cochrane Library.
- Data collection: Inception till May 2022.
- Selection Criteria: relevant clinical trials and excluded observational studies
- Outcomes: Biliary cannulation success, Pancreatic duct Cannulation time, Overall adverse events, Pancreatitis, Bleeding, Cardiopulmonary event, Procedure time, and Ampullary localization time

- We performed the analysis of homogeneous data under the fixed-effects model, while analysis of heterogeneous data was analyzed under the random-effects model.
- RevMan Software to perform the analysis and assessed the heterogeneity using the I² statistic.

RESULTS

- **S**tudies Included: 5
- The pooled analysis showed that the prone position was associated with higher success rate of biliary cannulation success and faster localization of the ampulla (RR=1.08 [1.03, 1.14], (P = 0.001) and (MD=-0.52 [-1.01, -0.02], (P = 0.04), respectively.
- There is no significant difference between both groups regarding the pancreatic duct Cannulation time (MD=-0.49 [-1.06, 0.08], (P = 0.09).
- Overall adverse events (RR= 0.79 [0.59, 1.06], (P = 0.12), Pancreatitis (RR= 1.36 [0.61, 3.06], (P = 0.45), Bleeding (RR=1.02 [0.34, 3.01], (P = 0.98), Cardiopulmonary event (RR=1.06 [0.35, 3.23], (P = 0.92), and Procedure time (MD=-1.08 [-3.79, 1.62], (P = 0.43).

CONCLUSION

• We concluded that the left lateral position was associated with a lower rate of successful common bile duct cannulation than the prone position in ERCP.

Α	Prone		LLD		Risk Ratio		Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% Cl	M-H, Fixed, 95% CI
Batheja 2013	39	39	18	20	5.9%	1.12 [0.95, 1.32]	
Marcelo 2017	409	426	201	226	64.2%	1.08 [1.03, 1.13]	
Verma 2019	120	121	128	132	29.9%	1.02 [0.99, 1.06]	
Total (95% CI)		586		378	100.0%	1.06 [1.03, 1.10]	•
Total events	568		347				
Heterogeneity: Chi ² =	= 6.03, df =						
Test for overall effect	t Z = 3.51	(P = 0.)	0004)				0.85 1 11 12 LLD prone
В	Prone		LLD		Risk Ratio		Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% CI	M-H, Random, 95% Cl
Batheja 2013	39	39	18	20	8.8%	1.12 [0.95, 1.32]	
Marcelo 2017	409	426	201	226	91.2%	1.08 [1.03, 1.13]	- -
/erma 2019	120	121	128	132	0.0%	1.02 [0.99, 1.06]	
Fotal (95% CI)		465		246	100.0%	1.08 [1.03, 1.14]	•
Fotal events	448		219				
	0.00 Chi	r = 0.19). df = 1 (i	P = 0.68	6); I ² = 0%		0.85 1 1.1 1.2
Heterogeneity: Tau ² =	· 0.00, CIII						
Heterogeneity: Tau² = Test for overall effect:							LLD prone

Figure 1: Forest plot for Biliary Cannulation

	Prone		LLD		Risk Ratio		Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% Cl	M-H, Fixed, 95% Cl
Batheja 2013	4	39	3	20	5.0%	0.68 [0.17, 2.76]	
Marcelo 2017	43	426	34	226	55.7%	0.67 [0.44, 1.02]	
Park 2017	10	31	12	30	15.3%	0.81 [0.41, 1.58]	
Verma 2019	20	121	20	132	24.0%	1.09 [0.62, 1.93]	+
Total (95% CI)		617		408	100.0%	0.79 [0.59, 1.06]	•
Total events	77		69				
Heterogeneity: Chi² = Test for overall effect:				= 0%			0.01 0.1 1 10 100 LLD prone

Figure 2: Forest plot for Overall adverse events