

THEME Parastomal Hernia

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Emergency parastomal hernia repair - a systematic review

Aim

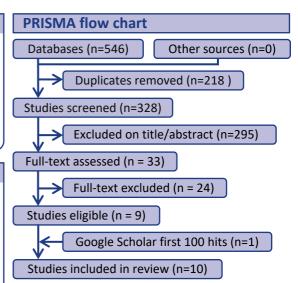
Parastomal hernia is a common complication that may require emergency repair (ePHR). Although 20% of PHRs are performed in an emergency setting, treatment strategies and outcomes are poorly documented. This systematic review aimed to determine the optimal treatment in ePHR.

Material and Methods

A literature search was conducted in PubMed, Embase, Web of Science, CINAHL, Cochrane Library and Google Scholar for original studies reporting on ePHR. Primary outcome was short-term (30-day) rate of reoperation. Secondary outcomes were length of stay (LOS) and 30-day rates of surgical site infection (SSI), other complications, and mortality.

Results

The search identified 328 studies of which 10 was included totalling 21,877 patients undergoing ePHR. Mean rates for short-term reoperation, SSI, other complications and mortality were 39% (95%-confidence interval 31-49%), 24% (15-37%), 44% (30-59%) and 12% (8-16%), respectively. Reported mean LOS was between 7 and 25 days. Insufficient data made meta-analysis impossible for comparison of open vs. laparoscopic, local repair vs. relocation vs. reversal, and mesh vs. suture ePHR.



Conclusion

Besides long LOS, ePHR is associated with high mortality, as well as high rates of reoperation and complications including SSI. The available literature does not support recommendation of a specific surgical approach for this patient group. The very limited data comparing surgical approaches and procedures, combined with possible bias and conflicting results, highlight the need for further research. Future studies should prospectively include patients from the time of admission and focus on comparing a two-stage approach with initial damage control with the commonly performed one-stage definitive repair strategy.

Short-term reoperation: Separate and pooled mean rates

Study	Events To	tal					Proportion	95%-CI	Weight (random)
Helgstrand 2013	11	32 —	m 1				0.34	[0.19; 0.53]	21.9%
Verdaguer 2021	13	24		-			0.54	[0.33; 0.74]	18.8%
Helgstrand 2022	62 1	69	-				0.37	[0.29; 0.44]	59.4%
Random effects model	2	25		>			0.39	[0.31; 0.49]	100.0%
Heterogeneity: $I^2 = 30\%$, τ	$a^2 = 0.0404, p$	= 0.24						•	
		0.2	0.3 0.4	0.5	0.6	0.7			

Short-term mortality: Separate and pooled mean rates

Study	Events	Total		Proportion	95%-CI	Weight (random)
Cheung 2001	3	17		0.18	[0.04; 0.43]	6.8%
Helgstrand 2013	8	32	i 	0.25	[0.11; 0.43]	11.3%
Gregg 2014	6	59		0.10	[0.04; 0.21]	10.8%
Kohler 2016	4	14	1	- 0.29	[0.08; 0.58]	7.5%
Gavigan 2017	1106	14679	•	0.08	[0.07; 0.08]	20.9%
Odensten 2020	0	22 ⊦		0.00	[0.00; 0.15]	1.8%
Verdaguer 2021	2	24		0.08	[0.01; 0.27]	5.5%
Helgstrand 2022	12	169		0.07	[0.04; 0.12]	14.4%
Baxter 2024	881	6658	*	0.13	[0.12; 0.14]	20.8%
Random effects mode Heterogeneity: $I^2 = 96\%$,	•	21674 p < 0.0√ 0	0.1 0.2 0.3 0.4 0.5	0.12	[0.08; 0.16]	100.0%