



Second- and third-line therapies for Helicobacter pylori eradication in Slovenia: Data from 2013–2024 of the European Registry on H. pylori Management

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BACKGROUND

Treatment of *Helicobacter pylori* (H. pylori) infection is clinically indicated; however, optimal strategies for H. pylori second- and third-line management remain unclear.

METHODS

Data on patient's second- and third-line eradication therapies registered at AEG-REDCap from the European Registry on H. pylori Management (Hp-EuReg) between 2013 and 2024 were included. Effectiveness was assessed using a modified intention-to-treat (mITT) analysis.

RESULTS

Data from eight Slovenian medical institutions contributed to the Hp-EuReg database, encompassing 402 second-line and 81 third-line eradication regimens. Among second-line regimens with more than 15 patients, the following achieved an eradication rate of at least 90%: a 14-day regimen of high dose esomeprazole, amoxicillin, levofloxacin, and bismuth (96%); a 10-day and 14-day regimen with esomeprazole, amoxicillin, and levofloxacin (91% and 90%, respectively); and a 10-day regimen with esomeprazole combined with bismuth quadruple therapy in a single-capsule (100%). The overall eradication rate for second-line empirical and culture-guided therapy was 86% and 89%, respectively ($p > 0.05$). At least one

adverse event was reported by 52 patients (13%), and treatment was discontinued in 0.7% of cases due to adverse events. In third-line treatment, bismuth quadruple therapy prescribed as single-capsule was the only regimen that achieved an optimal cure rate (94%). The overall third-line empirical effectiveness was 84%, while culture-guided treatment achieved 85% ($p > 0.05$). Adverse events were reported in 12

patients (15%); however, no patient required treatment discontinuation due to adverse events.

CONCLUSIONS

In Slovenia, *H. pylori* second- and third-line rescue therapies are generally effective and safe in real clinical practice.

Table. Second-line modified intention-to-treat effectiveness by treatment and duration.

Top lengths of treatment (7,10, 14 days)				Success	Total	
7 days	Scheme	Triple-C+A	Number	5	7	
			% of eradication	71.4%	100.0%	
			(95% CI)	(29-96)		
		Triple-A+M	Number	8	17	
			% of eradication	47.1%	100.0%	
			(95% CI)	(23-72)		
	Triple-A+L	Number	6	8		
		% of eradication	75.0%	100.0%		
		(95% CI)	(35-97)			
	Total			Number	19	32
				% of eradication	59.4%	100.0%
				(95% CI)	(41-78)	
10 days	Scheme	Triple-C+A	Number	5	5	
			% of eradication	100.0%	100.0%	
			(95% CI)	(48-100)		
		Triple-A+M	Number	14	15	
			% of eradication	93.3%	100.0%	
			(95% CI)	(68-100)		
		Triple-A+L	Number	30	33	
			% of eradication	90.9%	100.0%	
			(95% CI)	(76-98)		
		Pylera (single capsu	Number	17	17	
			% of eradication	100.0%	100.0%	
			(95% CI)	(80-100)		
	Total			Number	66	70
				% of eradication	94.3%	100.0%
				(95% CI)	(86-98)	
14 days	Scheme	Triple-C+A	Number	3	4	
			% of eradication	75.0%	100.0%	
			(95% CI)	(19-99)		
		Triple-A+M	Number	2	3	
			% of eradication	66.7%	100.0%	
			(95% CI)	(9.4-99)		
		Triple-A+L	Number	157	174	
			% of eradication	90.2%	100.0%	
			(95% CI)	(86-95)		
		Quadruple-A+L+B	Number	22	23	
			% of eradication	95.7%	100.0%	
			(95% CI)	(78-100)		
	Total			Number	184	204
				% of eradication	90.2%	100.0%
				(95% CI)	(86-95)	

Legend: A, amoxicillin; B, bismuth salts; C, clarithromycin; CI, confidence interval; L, levofloxacin; M, metronidazole