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**Evolution of the use, effectiveness and safety of bismuth-containing quadruple therapy for Helicobacter pylori infection between 2013 and 2021: results from the European registry on H. pylori management (Hp-EuReg)**

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Helicobacter pylori (H. pylori) remains a significant cause of peptic ulcer disease and gastric cancer. Treating H. pylori has always been challenging, with emerging resistance to first-line drugs exacerbating the issue. Since the discovery of H. pylori by Warren and Marshall in 1982, the search for an ideal antibiotic regimen has been ongoing, yet breakthrough results remain elusive. The recent Maastricht guidelines recommend using quadruple bismuth-containing therapy as the first line in areas with high clarithromycin resistance.

This multicentric study in Europe evaluated the safety, efficacy, and usage of bismuth-containing quadruple therapy for H. pylori infection. Approximately one-third of the 50,000-patient cohort received a bismuth-containing regimen. The single-capsule bismuth-containing quadruple treatment (ScBQT) was the most frequently used, accounting for 43% of all bismuth treatments. Over the years, ScBQT has gained popularity compared to non-single-capsule bismuth quadruple therapy (NScBQT). ScBQT achieved an overall efficacy of 93%, compared to 91% with PPI + CAB (clarithromycin, amoxicillin, bismuth) and PPI + MTB (metronidazole, tetracycline and bismuth). Another advantage of ScBQT was a shortened treatment duration of 10 days, compared to 14 days with PPI + CAB/MTB, while maintaining its efficacy.

Multivariate analysis showed that adherence to treatment, use of ScBQT, 14-day prescriptions, and combining BQT with standard or high-dose PPIs were associated with higher efficacy. Conversely, using PPI + MDB (metronidazole, doxycycline, bismuth) and BQT as rescue treatments predicted poor efficacy.

This study demonstrates that all bismuth-containing regimens, particularly single-dose BQT, are associated with good outcomes in H. pylori infection.