

Local *Helicobacter pylori* resistance patterns and eradication rates in South East London

Introduction

Helicobacter pylori (*H. pylori*) infection is extremely prevalent and is a major risk factor for gastric adenocarcinoma and mucosa associated lymphoid tissue lymphoma.¹ Antibiotic resistance is a major cause of eradication failure.²

The aim of our study was to characterise our local *H. pylori* resistance patterns and investigate the efficacy of our current eradication regimens.

Methods

143 patients had gastric tissue sent for *H. pylori* culture via endoscopic sampling at Lewisham and Greenwich NHS Trust between January 2020 and September 2023. Patient records were retrospectively analysed for age, gender, endoscopic findings, *H. pylori* culture and sensitivity results, eradication regimens used, as well post-eradication testing results.

Results

58 of 143 (41%) samples were positive for *H. pylori*. Sensitivities were not measured in 3 samples due to lack of tissue volume.

The median age was 44 years (IQR 34-50) and 45 (78%) were female. 52 (90%) were referred to secondary care after failing at least 2 courses of triple therapy. 24 (41%) had normal endoscopic findings, while 7 (12%) had gastritis and 5 (9%) had duodenitis.

53 (96%) tissue samples showed metronidazole resistance, 39 (71%) clarithromycin resistance and 21 (38%) levofloxacin resistance. There were no cases of amoxicillin or tetracycline resistance (Figure 1).

35 (60%) were re-tested following treatment and 12 (34%) of those were successfully eradicated. The most common eradication antibiotic regimens as part of triple therapy were amoxicillin and tetracycline (n=13; 37%), amoxicillin and clarithromycin (n=8; 23%) and tetracycline and levofloxacin (n=6; 17%). Quadruple therapy with bismuth was used in 4 (11.4%) patients.

Conclusions

The high rates of local metronidazole and clarithromycin resistance put forward an argument to remove these from our local treatment regimens. Whilst sensitivity guided *H. pylori* eradication was successful in eradicating a further 1/3 of patients (who were re-tested) with resistant *H. pylori*, bismuth use was not routinely adopted in our centre despite inclusion in guidelines and evidence for high efficacy.² Its addition may further improve eradication rates. Further data on untreated *H. pylori* resistance are needed to change first line therapy regimens.

References

- 1) Wang C *et al.* The association between *Helicobacter pylori* infection and early gastric cancer: a meta-analysis. *Am J Gastroenterol.* 2007; 102: 1789–98
- 2) Sun, Q. *et al.* High efficacy of 14-day triple therapy-based, bismuth-containing quadruple therapy for initial *H. pylori* eradication. *Helicobacter.* 2010; 15: 233–238

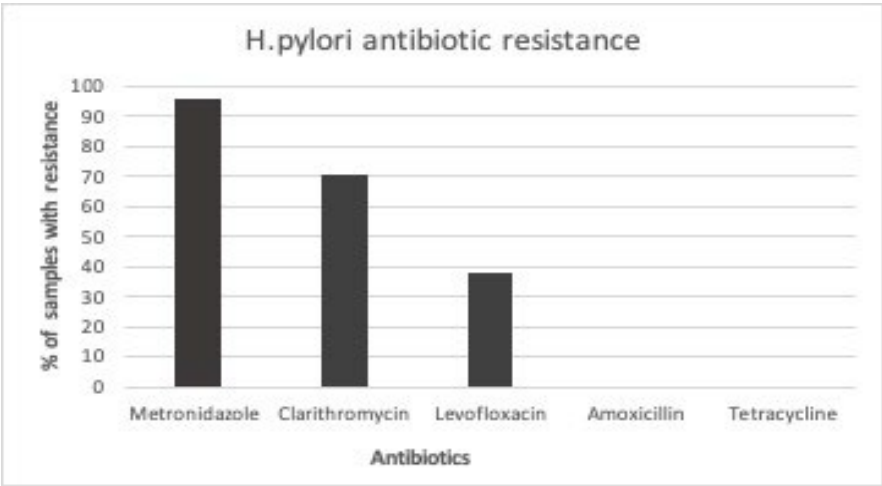


Figure 1 *H.pylori* resistance patterns