Is quadruple therapy the new triple therapy for \textit{H pylori}?

Christina Korownyk MD CCFP  Michael R. Kolber MD CCFP

Clinical question

Does quadruple therapy (QT) result in superior eradication rates of \textit{Helicobacter pylori} compared with traditional triple therapy (TT)?

Evidence

A recent industry-funded trial\(^1\) of 440 European patients reported significant benefit with QT for 10 days compared with TT for 7 days (93\% vs 68\% eradication, number needed to treat 5, \(P<.001\)).

- The QT was omeprazole twice daily with bismuth subcitrate, metronidazole, and tetracycline 4 times daily.
- The TT was omeprazole, amoxicillin, and clarithromycin twice daily.

Concerns: differing treatment durations, differing antibiotics, bismuth subcitrate not commercially available in Canada, and questionable generalizability.

A recent systematic review\(^2\) found no difference in eradication rates, compliance, or adverse events between QT and TT.

- For example, eradication rates were 78\% for QT and 77\% for TT (not statistically different).

Context

- Eradication rates for \textit{H pylori} might be suboptimal (<80\%) worldwide,\(^3,6\) owing to increasing antibiotic resistance.
  - Resistance varies by geographic region, and local resistance patterns are often not known.\(^6\)
  - Clarithromycin resistance should guide initial \textit{H pylori} treatment choices.
  - Avoid clarithromycin if resistance rates are >20\%.\(^7\)
  - Antibiotic resistance in \textit{H pylori} treatment does not appear to be a problem in Canada,\(^6\) although updated rates are lacking.
  - Canadian recommendations include TT or QT as first-line therapy for \textit{H pylori} eradication, but prefer TT owing to demonstrated equivalency and ease of dosing.\(^8\)
  - Cost-effectiveness data comparing QT and TT are lacking.
  - Other options being studied include sequential therapy (1 course followed by another) and hybrid therapies (sequential and QT).\(^9\) These require more research in North America before application to practice.\(^10\)

Implementation

Avoiding antibiotics that the patient has previously used (for \textit{H pylori} eradication or other illnesses) will increase eradication success.\(^11\) Eradication should be confirmed in patients with peptic ulcer disease, mucosa-associated lymphoid tissue lymphoma, or resected gastric cancer, and in those with persistent dyspepsia for whom the test-and-treat strategy was used.\(^11\) Length of treatment remains controversial. Lengthening TT beyond 7 days might lead to marginal additional benefit.\(^12\) Although some guidelines recommend TT for up to 14 days,\(^7,11\) others (including Canadian guidelines) recommend 7 to 10 days of treatment.\(^8\)

Dr Korownyk is Assistant Professor and Dr Kolber is Associate Professor in the Department of Family Medicine at the University of Alberta in Edmonton.

The opinions expressed in this Tools for Practice article are those of the authors and do not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.

References