Is quadruple the new triple therapy for H. pylori?

Clinical Question: Does quadruple therapy (QT) result in superior eradication rates of H. pylori over traditional triple therapy (TT)?

Evidence:

- A recent industry funded trial of 440 European patients reported significant benefit with QT x10 days compared to TT x7 days, 93% versus 68% eradication, Number Needed to Treat (NNT) 5.
  - QT was omeprazole BID with bismuth subcitrate, metronidazole and tetracycline QID
  - TT was omeprazole, amoxicillin and clarithromycin BID
- Concerns: differing treatment durations, bismuth subcitrate not commercially available in Canada, questionable generalizability
- Recent systematic review found no difference in eradication rates, compliance or adverse events between QT and TT.
  - For example, eradication rate 78% QT and 77% TT (not statistically different).

Context:

- Eradication rates for H. pylori may be suboptimal (<80%) worldwide due to increasing antibiotic resistance.
  - Resistance varies by geographical region and local resistance patterns are often not known.
- Clarithromycin resistance should guide initial HP treatment choices.
  - Avoid if resistance rates ≥ 20%.
- Antibiotic resistance in HP treatment does not appear to be a problem in Canada although updated rates are lacking.
- Canadian recommendations include both triple or quadruple therapy as first line therapies for H.pylori eradication, but prefer TT due to demonstrated equivalency and ease of dosing.
- Cost effectiveness data comparing QT and TT is lacking.
- Other options being studied include sequential therapy (one course followed by another) and hybrid therapies (sequential and quadruple).
  - These require more research in North America before application to practice.
**Bottom-line:** The optimal treatment regimen for H. pylori remains controversial, with differences in number and type of drugs, dosing, and length of treatment. Until local resistance patterns are identified and deemed a concern, there is not overwhelming evidence to change current prescribing patterns in primary care.

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**Tools for Practice** is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. If you are not a member of the ACFP and would like to receive the TFP emails, please contact subscribetfp@acfp.ca to be added to the distribution list. Archived articles are available on the ACFP website.

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