Is Culture Necessary before First-line Treatment for Helicobacter pylori Infection?

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To the Editor  
We read with interest the article by Wen-zhen et al (1), concluding that “antimicrobial susceptibility testing is necessary before first-line treatment for Helicobacter pylori infection”. However, it has been recommended — in all the Consensus Conferences up to now (2)— that performing culture after prescribing a first (or even a second) eradication treatment is not necessary and that assessing H. pylori sensitivity to antibiotics in clinical practice may be suggested only after failure of the second treatment. In this respect, we would like to emphasize some limitations of performing culture systematically before first-line treatment for H. pylori infection (3, 4):

1) Culture implies the performance of endoscopic exploration, which has several disadvantages: it is annoying, it is not free from risk, and, since endoscopy centres have been subjected to increasing demand, it involves prolonged waiting times.

2) Culture is expensive, due somewhat to the cost of the procedure itself, but mainly due to the costs of the associated endoscopy which is necessary to obtain biopsy specimens.

3) Culture is time-consuming, as H. pylori is a rather “fastidious” bacterium.

4) Culture is not always available on a routine basis.

5) The sensitivity of bacterial culture is not 100%. Indeed, even in the optimal conditions usually encountered in therapeutic trials, culture sensitivity is <90%.

6) Antibiotic susceptibility testing in clinical practice yields useful information only regarding a few antibiotics: clarithromycin and, less clearly, metronidazole (as resistance to amoxicillin and tetracycline is extremely low).

7) Even knowing the susceptibility of H. pylori, eradication rates do not achieve 100%, as the results observed in vivo by following in vitro susceptibility to antibiotics are often disappointing.

8) Finally, relatively high eradication rates (≥90%) have been obtained with newer and —different from the standard triple regimens— empirical first-line treatments, such as the “sequential” and the “concomitant” regimens (5).

In summary, H. pylori culture is an invasive, time-consuming method, offering quite low sensitivity, requiring significant cost, and which, in practice, tests very few antibiotics, with a questionable contribution to the management of patients (4). Whether patients should undergo an upper endoscopy for bacterial culture remains a debatable matter (4).

Obviously, the importance of H. pylori culture remains unaltered both in epidemiological and pharmacological research fields. Furthermore, it would be recommendable that culture is systematically performed even before first eradication treatment in specialized centres with interest in H. pylori treatment, with the intention to study the prevalence of antibiotic resistances and also to evaluate the influence of such resistances on the efficacy of treatment.

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References


