Revista de Ciencias Médicas de Pinar del Río

ISSN: 1561-3194 **RNPS:** 1877
Rev Ciencias Médicas. 2025; 29(2025): e6838

LETTER TO PRINCIPAL

Evaluation of diagnostic methods for *Helicobacter pylori* in Pinar del Río: towards a comprehensive diagnostic algorithm

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Received: July 16, 2025
Accepted: July 24, 2025

Citar como: Curbelo-Valle Y, Vega-Jiménez Y. Evaluación de métodos diagnósticos de *Helicobacter pylori* en Pinar del Río: hacia un algoritmo diagnóstico integral. Rev Ciencias Médicas [Internet]. Año [citado: fecha de acceso]; 29(2025): e6838. Disponible en: http://revcmpinar.sld.cu/index.php/publicaciones/article/view/6838

Mr. Director:

We read with scientific interest the article "Helicobacter pylori infection in patients treated in gastroenterology consultation,"[(1)] published in your journal. This work constitutes a valuable contribution to the epidemiological knowledge of this infection in our province, reporting a prevalence of 85 % in symptomatic patients, with predominance of chronic gastritis (63,7 %) and epigastralgia as the main manifestation. However, almost a decade after its publication, we consider it imperative to deepen the systematic evaluation of available diagnostic methods and the implementation of a stratified diagnostic algorithm, adapted to the realities of our health system, the central theme of a doctoral research study in development in the population of Pinar del Río.

The referenced study employed Ziehl-Neelsen staining in histological samples as a diagnostic method. While this technique is available in our setting, its sensitivity may be affected by bacterial density and prior use of proton pump inhibitors (PPIs).[(1)] Under optimal conditions, the sensitivity of Ziehl-Neelsen staining for H. pylori ranges from 60-80 %, but it can decrease significantly in contexts of low bacterial load or after treatment with PPIs. Furthermore, specificity may be compromised by the presence of other spiral bacteria or technical artifacts.[(2,3)]

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Helicobacter pylori infection cannot be diagnosed solely based on the patient's clinical history and symptoms, and laboratory and imaging tests are often required to confirm the diagnosis. Both invasive and non-invasive methods are available to diagnose H. pylori infection, including conventional and advanced detection techniques. It is not uncommon for patients to present false negative results due to the use of inadequate research methodologies, which prevents the adoption of appropriate clinical management. Thus, an analysis of H. pylori diagnostic methods is necessary, with their advantages and disadvantages.[4,5]

These limitations acquire clinical relevance when analyzing the results of the local study,[1] where a considerable percentage of cases presented unsatisfactory evolution. This discrepancy with international series,[2,3,4,5] could be related not only to antibiotic resistance, but also to possible diagnostic failures that prevent the timely establishment of therapy.

Recently, a Cuban study in primary care evaluated the accuracy of diagnostic tests in 173 patients with dyspeptic symptoms, using culture and histology as reference standard.[4] The rapid urease test (RUT) and IgG ELISA serology showed the greatest diagnostic accuracy (98,9 % and 84,4 %, respectively), followed by Western Blot and real-time PCR (79,3 % and 73,9 %). These results support the combined use of invasive (RUT) and non-invasive (IgG ELISA) methods as an initial strategy in the diagnosis of H. pylori in primary care in Cuba. The prevalence of infection found was 50 %, similar to that reported in developing countries.[1,4]

Histology, although valuable for detecting H. pylori and evaluating the status of the gastric mucosa, has limitations related to the number and location of biopsies, the pathologist's experience, and the staining technique used. The combination of culture and histology improves diagnostic accuracy, but access to these techniques may be restricted to specialized centers. In the foreign literature, the use of non-invasive tests such as stool antigen test and serology is recommended for initial diagnosis, reserving invasive methods (endoscopy with biopsy for RUT, histology and culture) for selected cases or follow-up.[4,5]

In the Cuban context, the evaluation of diagnostic accuracy with different invasive and non-invasive tests offers an alternative to those recommended by foreign consensuses. The use of IgG ELISA and RUT in primary care would allow optimizing resources and generating evidence for updating national guidelines for diagnosis and management of gastroduodenal diseases associated with H. pylori.[1,4]

The standardization of diagnosis would directly impact eradication, by allowing better identification of resistant strains and the selection of personalized therapeutic schemes. Likewise, it would facilitate early diagnosis of precancerous lesions, key in the prevention of gastric cancer, a relevant health problem in our province.[4,6]

We invite the medical community of Pinar del Río to validate stratified diagnostic algorithms in multicenter studies, manage the local production of non-invasive tests, and update provincial protocols following international consensuses adapted to our reality.

The Journal of Medical Sciences of Pinar del Río constitutes the appropriate space to invite reflection on the importance of updating diagnostic and therapeutic protocols, incorporating local and foreign evidence. Standardization will not only improve care for patients with digestive symptoms, but will also contribute to the prevention of complications such as gastric neoplasia.

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Conflict of interest
The authors declare no conflict of interest.

Authors' contributions
The authors were responsible for the conceptualization, formal analysis, project management, drafting, editing, and revision.

Funding
The authors received no funding for this research.

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