Reviewer’s report

Title: Applicability of a short/rapid 13C-urea breath test for Helicobacter pylori: a retrospective multicenter chart review study

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Reviewer: PHILIPPE LEHOURS

Reviewer's report:

The paper submitted by Schiloviz-Weiss et al. aimed to evaluate the duration time needed for diagnosing Helicobacter pylori infection by the BreatID system which is 13carbon labled urea breath test.

The study was conducted in several gastroenterology departments over the world (Germany, Netherland, Israel, Italy and Switzerland) between 2001 and 2009.

One originality, is the authors monitored 13CO2/12CO2 concentrations in order to determine positive or negative H. pylori status.

One major limit of this study is that they did not use any other diagnosis method for H. pylori infection therefore limiting the interest of this study.

The paper need to be clarified and/or simplified.

Introduction/Background (Minor Essential Revisions):

UBT is not the most popular method used in epidemiological studies in general. Serology is often used. The authors should better described shortly the advantage of the UBT versus serology.

Methods (Minor Essential Revisions):

-study subjects : Why do some subjects had more than one test result. One single test/subject should be enough? A clarification is needed.

-statistical analysis: The last paragraph is confused. A clarification is needed.

Abstract (Major Compulsory Revisions):

The abstract should be understandable by itself. The sentences from “Significant differences....to.... 10 on average in the others” are confused. The authors have to re-write the asbtract in order to better highlight the main results obtained in this study.

Results (Major Compulsory Revisions):

-Table 1 and Table 5 can be fused into one single table. Why do the number of patients are differs between the two tables?

-The authors claimed that there was a trend toward reduction in H. pylori prevalence with time. They can not concluded anything due to the fact that they included several centers among the world and also due to the high variability
number of patients included over time.
This paragraph have to be removed as well as table 2.
- Duration of procedure: We do understand that test duration was different between countries. But what is the meaning of that? Do it reflect machine variability and/or bacterial inoculum influence? It should be discussed or removed from the manuscript. Table 4 should also be removed.

Discussion (Major Compulsory Revisions):
As stated by the authors, the study can not be compared to other previous works because they did not use other diagnostic method. It is one major limitation.
On page 9, from the second paragraph to the end: the authors do not really discuss their results. It is just an interesting review of previous published papers on UBT performances.
As a general comment, the authors should simplify their manuscript and better highlight of the main originality of their work, ie, multicenter monitoring of 13CO2/12CO2 concentrations.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests.