

Editorial

Is there still a place for breath tests in gastroenterology?

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It has been almost 40 years since the first hydrogen and C14 breath test were described for the first time, showing a very promising future for the diagnosis of otherwise barely discernible diseases. Since then, breath testing analysis has rapidly expanding and the technology has significantly improved thus allowing us to extend the original indications to many other gastrointestinal diseases.

The discovery of *Helicobacter pylori* has changed the history of 14C breath test as researchers introduced for the first time the non-radioactive isotope C13 opening a new way for a safer diagnosis of many other conditions. While C13 breath test are so diffused, there are several issues that still need to be clearly defined. First of all, C13 substrates are now in a limbo, as they are neither considered as “drugs” nor “functional foods”. Moreover, major strength should be probably reserved to better define intervals for normal ranges and standardization of protocols.

Hydrogen and methane detected through breath testing simply describe how microbiota and the intestine cope together to fulfill their metabolic functions. Hydrogen breath tests using various substrates like glucose, lactulose, lactose and fructose are currently used to diagnose small intestinal bacterial overgrowth (SIBO) and sugar malabsorption, even though common criteria for a correct execution of the test as well as preservation of the samples and interpretation of the results are still missing in many cases.

The present collection of papers is meant to make an update on current knowledge on breath tests in gastroenterology, divided as hydrogen/methane and C13 breath tests. A model to standardize reports is provided and a paper analyzing costs and sustainability of those tests in the hospital setting has also been provided.

This collection comes as a natural consequence of an intense meeting held in Rome on December 2012, where an update on breath testing was presented and shared among gastroenterologists, biologists and nurses. We hope that this issue will add more strength to the research on breath tests in gastroenterology, in order to ensure the right position of those tests in the modern clinical practice.