

Title Hydrogen breath test and other alternatives for diagnosing lactose intolerance

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Reference Paz-Valiñas L, Bugarín González R. Test del H₂ en el aliento y otras alternativas diagnósticas para la intolerancia a la lactosa. Santiago de Compostela: Agencia Gallega para la Gestión del Conocimiento en Salud (ACIS). Unidad de Asesoramiento Científico-técnico (avalia-t) 2017. Report No.: CT2017/03. Available from: <https://avalia-t.sergas.gal/DXerais/735/CT201703TestLactosa.pdf>

Aim:

To locate scientific evidence on the sensitivity and specificity, use, indications, adverse effects, and costs of the H₂ breath test and other alternatives for diagnosing lactose intolerance.

Conclusions and results:

The available evidence differs depending on the test being evaluated. In the case of the H₂ breath test, genetic tests, and self-reported symptom tests, systematic reviews were found with a good level of scientific evidence. In the case of the gaxilose test, one RCT was found, while the rest of the studies included were observational in nature, and are therefore of a lower methodological quality.

- The H₂ breath test offers a good level of scientific evidence, and is considered to be a reliable, non-invasive test with good sensitivity and maximum specificity. Today it is considered as the method of choice for the diagnosis of malabsorption and intolerance to lactose, both in adults and in paediatric patients. However, it is not recommended for patients with irritable bowel syndrome.
- The analysis of the polymorphism for C/T13910 persistence or non-persistence is a genetic test with a good degree of sensitivity and specificity for the Caucasian population, which is simple to use and with good adherence.
- The lactose tolerance test, which involves measuring blood glucose levels, is carried out frequently, but offers less sensitivity and specificity than the H₂ breath test.
- The Gaxilose test in urine provides limited evidence, the data from an RCT indicated that it is a simple, non-invasive test, with good diagnostic validity. The self-reported symptoms test has very wide sensitivity and specificity intervals, and due to its inconsistency, it is not possible to arrive at a conclusion to recommend its use in clinical

practice, without carrying out another objective test.

- The self-reported symptoms test has very wide sensitivity and specificity intervals, and due to its inconsistency, it is not possible to arrive at a conclusion to recommend its use in clinical practice, without carrying out another objective test.

The adverse effects of the tests are due to the amount of lactose ingested in order to carry out the test, which are not serious. These include abdominal pain and swelling, distension, diarrhoea and vomiting, all associated with ingesting lactose. No adverse effects have been reported for the genetic test.

Methods:

A systematic search was made of the medical literature covering the main computerised biomedical databases, i.e., PubMed, Embase, ISI Web of Knowledge, Centre for Reviews and Recommendations, Cochrane, etc. To retrieve unpublished data, the process was completed by a search of the databases of ongoing studies. Two independent reviewers selected the papers in accordance with a series of pre-established selection criteria. The data were then extracted using a purpose-designed form and qualitatively summarised in evidence tables. Study quality was assessed using the *“Oxford Centre for Evidence –Based Medicine Levels of Evidence Working Group”*.

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