

- Title** Update of laboratory medicine procedures related to the diagnosis of larval echinococcosis
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- Reference** ISBN number: 978-2-11-151493-5, link to full report in French: [https://www.has-sante.fr/portail/jcms/c\\_2749012/fr/actualisation-des-actes-de-biologie-medicale-relatifs-au-diagnostic-des-echinococcoses-larvaires?xtmc=&xtcr=4](https://www.has-sante.fr/portail/jcms/c_2749012/fr/actualisation-des-actes-de-biologie-medicale-relatifs-au-diagnostic-des-echinococcoses-larvaires?xtmc=&xtcr=4) .

## Aim

Echinococcosis is a zoonotic disease caused by tapeworm larvae of the genus *Echinococcus*. The aim of this report was to review the serological techniques for detecting anti-*Echinococcus* antibodies that are currently validated for initial testing, confirming diagnosis and follow-up of treated patients.

This work responds to a request from French National Health Insurance regarding updating the list of Procedures in Medical Biology (NABM<sup>1</sup>) that it reimburses. This request envisaged limiting initial testing to enzyme immunoassay techniques (EIA/ELISA) and indirect haemagglutination (IHA), confirmation to the Western blot (WB), and finally to specify in the wording of the follow-up that the technique used must be quantitative.

## Conclusions and results

The data collected and analysed in this way allow us to conclude that:

- it is indicated to simultaneously perform two serum antibody detection techniques; the two standard serological techniques are ELISA (EIA) and IHA;
- if a positive result is obtained with at least one of these two techniques, confirmation is necessary;
- in the event of negative results with both techniques, but in the presence of a clinical picture and imaging data that are highly suggestive of echinococcosis, confirmation is also necessary;
- in both cases, the standard serological technique for confirmation is the WB;
- WB is performed on the same sample as the initial search and it is not necessary to take a new sample;
- patient follow-up should be done at the same time as an iterative test on the serum used in the initial research, using an EIA technique, combined or not with a IHA technique depending on the patients and treatments;
- serological monitoring is performed in all patients once or twice a year.

The proposed update of the Nomenclature of Procedures in Medical Biology (NABM), reimbursed by National Health Insurance, as proposed, seems therefore logical and appropriate.

## Methods

The method first involved a critical analysis of literature reviews identified through a systematic literature search covering the period 2009-2017. No technology assessment reports, meta-analyses or systematic reviews were identified at the end of this literature search. The literature analysed consisted of a consensus of experts from the World Health Organization (WHO), a WHO report, nine general reviews, a technical data sheet, an educational pedagogic document and an activity report.

Data from French practice were then taken into account, provided by the National Health Insurance reimbursement databases.

Finally, the views of healthcare professionals involved with this infection were gathered via a questionnaire sent to clinical biologists (*via* the National Professional Council for the Biology of Infectious Agents-Hospital Hygiene) and to the French National Reference Centre for Echinococcosis (CNR-E, Laboratory of parasitology and mycology, Besançon CHRU (Regional University Hospital Centre).

The conclusions have been submitted directly to the HAS Board for validation.

## Written by

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<sup>1</sup> Nomenclature des actes de biologie médicale