Reviewer's report

Title: Incidence of human cystic echinococcosis in Slovenia

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Reviewer: Franz Josef Conraths

Reviewer's report:

This manuscript describes a study in which patients from Slovenia who were suspected of having contracted cystic echinococcosis were serologically examined. The study design has a number of substantial shortcomings:

i) It is known that most serological tests have different sensitivities in patients with a liver manifestation of echinococcosis (higher sensitivity) as compared to patients with a manifestation in the lungs or other organs (lower sensitivity). This needs to be taken into consideration in the analysis reported in the manuscript.

ii) The values for sensitivity (se) and specificity (sp) of the IHA in the authors' laboratory are not reported. Moreover, the cut-off titres used to distinguish between samples considered positive, suspect and negative are not clearly mentioned (is 1:32-1:128 the 'suspect' range?). According to the literature, the test has a se of 95.5% and a sp of 90.5% if a titre of 1:64 is considered positive (Gadea et al., 1999). According to the manufacturer, the ECHINOCOCCUS WB IgG has a se of 98% and a sp of 93%. If these estimates are true, it is not plausible that the authors detected a proportion of 127/1325 as suspect or positive by the IFA, while only 48 were confirmed by the ECHINOCOCCUS WB IgG. Clarification of the true status of the remaining 79 sera/patients is essential for the interpretation of the data.

iii) The spatial distribution of the places where the patients came from who tested negative is not reported (Fig. 1). It is therefore not justified to conclude that the incidence of CE is greater in the east of Slovenia if only the patients who tested positive for echinococcosis are considered. The authors need to rule out a spatial bias in the total sample.

iv) Data on treatment, e.g. surgery, including histological confirmation of CE, is missing. Histological data are required to reach a definitive diagnosis in the CE case patients and would help to validate the diagnostic procedure and the incidence estimate reported in the manuscript.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published
**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.