Reviewer's report

Title: vCJD risk in The Republic of Ireland

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Reviewer: Annick Alperovitch

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Accept after discretionary revisions

The aim of this study was to estimate the total future number of clinical vCJD cases in the Republic of Ireland, based on the various sources of contamination of the Irish population: Irish BSE, meat and meat products imported from the UK, stays of Irish population in the UK.

The relative rates of BSE exposure between the Republic of Ireland and the UK was computed and the classical model used repeatedly to predict the expected number of vCJD cases in the UK was adapted to estimate the future vCJD epidemics in Ireland.

According to this model, only 1 (95%CI 0-15) clinical case of vCJD is expected in the Republic of Ireland. The study shows also that Irish BSE and imports from the UK contributes equally to the risk of vCJD in the Irish population, the relative risk due to stays in the UK being twice lower.

The paper is clear and easy to read.

The authors did their best to assess accurately the exposure due to imports from the UK. This is certainly the weakest part of the work (limited and questionable data), but it does not raise doubt about the main conclusion of this study.

Compulsory revisions

1. The effectiveness of the SBO ban was assumed to be anywhere between 0 and 100% in the UK and 100% in the Republic of Ireland. It is likely that this difference is explained by the respective dates of ban implementation in the UK (1989) and in Ireland (1996)?). Justification should be given.

2. In the UK (and NoI?) there were two types of slaughterhouses: domestic and export-approved. Where animals exported from UK or NoI were slaughtered? If they were slaughtered in export-approved slaughterhouses (and therefore were theoretically at lower risk of BSE), could this have any impact on the relative risk due to indigenous and imported exposures to BSE?

3. In 'Results', second paragraph, I have some difficulties to understand the true meaning of the ‘13%’. Could you clarify please?

4. The final section of the discussion addresses the important issue of risk of vCJD due to blood
products. The discussion about this risk is based on computations and results that have not been described in this paper. There is an apparent inconsistency between the maximum number of future clinical cases of vCJD due to blood products (n=15) and the upper limit of the 95% confidence estimate of the total estimate of future vCJD cases, which is also equal to 15. Moreover, 20% is not a low proportion (even if, undeniably, 20% of 1 (case) is low ...) and 15 is not a low number of cases with regards to safety requirements about blood products. Therefore, I recommend cautious rewording of this part of the discussion.

Discretionary revisions

Only one: In 1.3, the sentence "Of this 35% is ....." is repeated almost identically a few lines below.

**Competing interests:**

None declared.