Reviewer's report

Title: Should there be a standardised approach to the diagnostic workup of suspected adult encephalitis? A case series from Australia

Version: 2 Date: 23 September 2010

Reviewer: Nino Khetsuriani

Reviewer's report:

General comments

Overall, this is a well-written paper on important issue of difficulties of etiologic diagnosis of encephalitis. Using the data on a series of adult cases of encephalitis hospitalized in three hospitals in Australia during the 10 year period, the authors demonstrate the lack of systematic approach to diagnostic work-up of encephalitis in Australia and the need for standardized guidelines to address this problem.

1. The question posed by the authors is well defined
2. The methods are appropriate and well described. The design of the study is sound, although not without limitations related to the retrospective nature of the study and small numbers related to the relative infrequency of the syndrome in question. I would be interested to know the reason for excluding pediatric patients and focusing the study on adults only
3. The data are sound, although the sample size is small and should be followed up by larger studies to get a better insight of underlining issues.
4. The manuscript adheres to standards for reporting
5. The discussion and conclusions are balanced and supported by the data (see specific comments below)
6. The limitations of the work are in general clearly stated (see specific comments below)
7. The authors acknowledge previous work in the field
8. The title and abstract adequately convey findings
9. The writing is acceptable.

Specific comments

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

- If these hospitals have a stable catchment area with a defined population and are the main referral hospitals for encephalitis, maybe the authors could provide the average hospitalization rate for encephalitis over the 10 year study period? Annual rates would not be stable due to small numbers.
In limitations, would suggest mentioning potential changes in diagnostic practices over time. These may have changed, since the study covers 10 year period, particularly taken into account the introduction and increasing availability of PCR or other molecular methods during the study period.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

• P. 5 add the acronym HSV after the mention of “herpes simplex virus“ in the last paragraph. The acronym is used later in the paper but is not spelled out.
• P. 11, 1st paragraph - the author mentions the occupational history was available for 57.5% of cases without any further details. Would be interested to know if the answers were contributory to or suggestive of possible etiologic diagnosis in any of these cases.
• P. 13 – line 5 – “herpesviruses“ should be one word, without capitalization
• P. 13 – line 14 – please spell out VZV
• In Table 3, there are separate entries for echoviruses, coxsackieviruses and enteroviruses, all of which are representatives of a single family – Enterovirus. The current classification of enteroviruses although it still keepsterms “echovirus” and “coxsackievirus” in names of individual viruses, no longer recognizes them as separate groups. Please combine them in one entry.
• It would be more logical and easier to follow Table 3 if the pathogens were listed not in alphabetical order, but by pathogen group – e.g. viral, bacterial , parasitic etc. causes.
• Please include in Table 3 specimen types and types of tests used for etiologic diagnosis This is important because of there are various testing options for almost all of these pathogens and their diagnostic value can vary greatly. E.g. identification of adenovirus in respiratory secretions or enterovirus in stool contributes very little to etiologic diagnosis, while finding these pathogens in CSF would confirm the etiology of encephalitis. If the tests used in clinical practice are not optimal, that would suggest the need for more detailed guidelines for diagnostic work up which would include recommended types of tests and specimens.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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.