Title: Diagnostic criteria for neurocysticercosis

(Response to the “Letter to the Editor” from Dr. Aulakh, concerning the paper ANA-15-1268.R5 "New diagnostic criteria for neurocysticercosis: reliability and validity”)

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We thank Dr. Aulakh for his comments[1] which we will address point by point.
It’s unlikely that the relationship between neurocysticercosis (NCC) and seizures/epilepsy will change according to different definitions.[2] The prognosis of parenchymal NCC is generally good although seizure recurrence occurs in about one-third of people with parenchymal NCC,[3,4] most do not develop late epilepsy. Seizures associated to genetic syndromes such as absence, are not relevant to NCC, as there is no causal relationship with NCC. The co-existence of absence seizures and NCC is likely to be coincidental in endemic areas.
We partly agree with Dr. Aulakh regarding the use of immunological tests. Costs, technical issues and logistics make their use challenging in many endemic areas particularly enzyme-linked immunoelectrotransfer blot (EITB). This is less of an

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issue with enzyme-linked immunosorbent assay (ELISA), included in our diagnostic criteria. In-house ELISAs are economical and simple to do and although their sensitivity and specificity in sera are not optimal, they provide valuable complementary information to the epidemiological, clinical, and radiological diagnostic data. CSF immunological tests are of much value in the case of extraparenchymal NCC as specificity of 90-100% has been reported substantially decreasing the risk of false positives.[5]

Dr. Aulakh expressed concerns about the use of X-rays of limbs as a criterion for the diagnosis of probable parenchymal NCC. We do share the concerns, however, the exposure to radiation generated by limbs X-rays particularly as one off, is very low and there is no direct epidemiological data to support increased cancer risk in such scenarios.[6]

We agree that the differential diagnosis between NCC and tuberculoma is a point of concern. For this reason, an individual with epilepsy from an endemic area with a cerebral cyst will only have a probable (and not definitive) diagnosis of parenchymal NCC and as we stated there will be a need to “establish differential diagnoses with other etiologies,”.

Lastly, as Dr. Aulakh stated, it will be almost impossible to have a perfect diagnostic criteria for NCC in view of the great heterogeneity of the condition. We are conscious that our criteria can be improved, perhaps as a result of an international effort. Our criteria were established by a Latin American team and it is possible that some aspects may be improved in Asia and Africa. Taking into account the area of origin of a suspected case to define different criteria is an interesting idea to consider. Migration from country to country is, however, frequent and disparities in socioeconomic status exist within countries, so it may be difficult to implement. Developing internationally accepted diagnostic criteria for NCC should be considered. Meetings with specialists from around the world is essential to identify NCC particularities in specific area and to determine how to improve and validate it criteria for them.

Author Contributions

All authors contributed equally to drafting this reply

Potential Conflicts of Interest:

nothing to report

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