Reviewer's report

Title: A case of limbic encephalitis presenting as a paraneoplastic manifestation of limited stage small cell lung cancer

Version: 2 Date: 26 February 2010

Reviewer: shiv saidha

Which of the following following best describes what type of case report this is?: Unexpected or unusual presentations of a disease

Has the case been reported coherently?: Yes

Is the case report authentic?: No

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: No

Does the case report have diagnostic value?: Yes

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

Fahim and colleagues report a case of small cell lung cancer, which presented with presumed paraneoplastic limbic encephalitis. Although not novel, it serves as a useful reminder to physicians to consider paraneoplastic neurological syndromes.

There are however several shortcomings that need to be addressed.

Major Points:

There is insufficient evidence provided in this report to support the diagnosis of limbic encephalitis/LE. The classic triad of limbic encephalitis is short-term memory impairment, temporal lobe seizures and behavioural/psychiatric disturbances. The typical MRI abnormality associated with LE is bilateral medial
temporal hyper-intensity.

Apart from cognitive impairment in this case, there is no evidence to corroborate a diagnosis of LE. The MRI with arrows (Fig 5b), which apparently shows areas of high signal consistent with LE, is not adequate. Firstly it is a sagittal scan and the arrowed areas of hyper-intensity are in the frontal lobe (not the “limbic system”), with no obvious hyper-intensity in the temporal lobe. An axial FLAIR scan is probably the best way to demonstrate the bilateral medial temporal hyper-intensities typical of LE (although even an axial T2 or coronals at the level of the medial temporal lobes would suffice).

Also was an EEG performed? The patient was encephalopathic with impaired memory – which may be a manifestation of non-motor partial seizures. Even the presence of temporal epileptiform activity may have been helpful in providing some support for the presence of possible LE. Have the authors considered that perhaps the patient was simply encephalopathic on account of underlying malignancy with hyponatraemia. Could there have been any infection contributing to the encephalopathy – for example respiratory infection. It appears that there is also a right lower zone opacity on the CXR.

Minor Points:
- Non-contrast MRI scans do not show areas of high signal uptake: Uptake refers to contrast enhancement. The nomenclature for MRI is intensity – hypo, iso or hyper.
- No proposed mechanism for the collapse and loss of consciousness has been provided by the authors
- Was an ABG performed? Was a full MMSE performed? Was more detailed cognitive assessment such as Rivermead behavioural memory testing performed? Why did the pt only score 7/10 in the MTS?
- The neurological examination should include particular reference to the absence of signs suggestive of cerebllopathy/peripheral neuropathy, in the context of a presumed paraneoplastic syndrome.
- CT head was with contrast (should be stated)
- Was onco-neuronal antibody testing performed? Hu/Ri/Yo/Ma/Ta/GAD/Amphiphysin/VGKC/NMDA receptor etc
- There is a statement in the discussion that EEG is not helpful in diagnosing LE etc – This statement is not true and requires referencing if it is to be kept in the manuscript.
- Fig 5a: Axial FLAIR showing generalized, and predominantly subcortical areas of hyper-intensity
- Fig 5b: Sagittal T2 showing frontal areas of hyper-intensity.
- Lines 2-3 of introduction needs re-arranging. Some general grammatical errors need correcting.

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

Declaration of competing interests:

I declare that I have no competing interests