Reviewer's report

Title: Unilateral phrenic nerve lesion in Lyme neuroborreliosis

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Reviewer: Josh Torgovnick

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Most of my comments relate to style and some to content. I would normally have reviewed the references but the NYU library is off line after hurricane Sandy.

1) In the case presentation was the shooting thoracic pain left sided?
2) Were the dysarthria and dysphagia thought due to the facial palsy or other cranial nerve involvement.
3) Was the MRI done without and with contrast?
4) This is a question of personal interest as I cannot imagine that the CSF signal on FLAIR imaging was normal with a CSF protein of 1324mg/l were the images reviewed by a neuroradiologist?
5) I would write 129 cells/ul
6) The CT scan of the chest was done to exclude a mass lesion not show the elevation of the hemidiaphragm. The language is wrong.
7) "In this case" I might say something to the effect that the diaphragmatic paralysis became evident after the presentation with more typical acute Lyme meningitis and cranial nerve palsies. To my mind he was adequately before the presentation with dyspnea. Was a chest X-ray done on his first admission?
8) It is not necessary to say that the diaphragmatic paralysis is a serious condition.
9) Diaphragmatic weakness has been associated with trauma, malignant compression/infiltration, metabolic, inflammatory and other disorders, but rarely with Lyme disease.
10) The CSF indicates meningitis one doesn't do an LP to exclude disc prolapse and this should be modified.
11) LNB should be considered in the differential diagnosis of respiratory failure (due to diaphragmatic paralysis)
12) There are too few cases to comment on outcome, but ability to treat is the issue.
13) The case should be reported as the more frequently it is reported the more likely it is to be recognized and treated when it presents as an isolated syndrome not in the context of acute Lyme meningitis. This diagnosis has not made it into the lists of a host of textbooks I checked as I was writing my comments.

Level of interest: An article of importance in its field
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.