Reviewer's report

Title: Limb-Onset Amyotrophic Lateral Sclerosis Patients Visiting Orthopedist Show a Longer Time-to-Diagnosis since Symptom Onset

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Reviewer: Friedhelm Sandbrink

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The authors describe a retrospective study in ALS patients to determine “how the choice of physician […] may affect the time it takes for a diagnosis of ALS to be made”. This appears to be a rather straightforward question. The authors answer this in the title of their study as that the ALS patients with limb-onset visiting an orthopedist initially “show a longer time-to-diagnosis since symptom onset”.

Major compulsory revisions:

1) A more extensive chart may greatly enhance the value of the study by making it more relevant, as the study in its current form leaves many questions unanswered. The reader is left with the impression that orthopedists may not be as aware as other specialists about ALS and thus miss to diagnose the ALS early on. This impression is supported by the authors who suggest the need for increased education of non-neurological physicians in their conclusion. This conclusion appears premature. The authors do not describe detailed clinical characteristics of the patients themselves, and whether the patients presenting to the orthopedist may actually have had a different presentation and course. The authors speculate that the increase in the diagnostic interval in limb onset patients visiting the orthopedist is because of lack of bulbar symptoms in the early stages of disease. It would be worthwhile to get more details from the patients’ charts in this regard, if at all possible. It is conceivable that limb onset patients were heterogeneous and differed between the different specialties. We know that older age at onset predicts shorter survival. Did the patients who chose to see an orthopedist differ in their age from the patients presenting to other physicians? Did they have a slower progressive course at least initially? Did they present with symptoms resembling radiculopathy, lumbar or cervical spinal stenosis? If the data cannot be obtained from the chart, at least a more detailed discussion appears necessary. The discussion section may benefit from a more detailed description of the prognostic factors in ALS in general and in particular as they relate to potential impact upon presentation to the different specialists.

2) Patients were stratified as bulbar onset vs limb onset, and correlation of the time to final diagnosis with type of practitioner seeing the patient initially was made. The final diagnosis was made in all patients by a neurologist. Thus any delay in diagnosis may be explained primarily as delay in referral or presentation to a neurologist, but this is not specifically measured or reported. The figure 2,
labeled “diagnostic pathway”, appears rather simplistic. Referral to a specialist may come from the general practitioner, or initiated by the patient directly. For greater clarification in this regard, the figure 2 should be replaced with a more detailed figure outlining the number of patients along the different routes including many that remain unlisted, if such data exist (such as GP to orthopedist). Did any of the patients who presented to and were diagnosed by a neurologist (62/202 patients) get seen initially by their GP prior to them presenting to the neurologist, possibly without a dedicated referral consultation (as not mandated by the health care system)?

Related: The authors state that “more than 50% of the patients with ALS were referred to an inappropriate clinic prior to final diagnosis”. This may be an overreach, as the authors themselves point out that many patients were not referred to the specialist by another provider but presented directly without referral.

Minor essential revisions:
1) The study is a retrospective analysis of the hospital records of ALS patients at Toho University Omori Medical Center from Jan 1 to July 31, 2011. It is not clear whether the 202 patients enrolled into this study represent all ALS patients during this time period (as not explicitly stated so), and what are the reasons for exclusion, if any.
2) The title states a “longer time-to-diagnosis since symptom onset” for patients visiting an orthopedist, but does not state the comparison specifically. Per the body of the text, the comparison is made specifically to neurologist (as the only specialist time shown to have a significantly different time to diagnosis).
3) The writing may benefit from a few corrections or changes in style, with some mentioned here. In the abstract, the “Results” section states that “A total of 78 ALS patients were examined”. This appears incorrect, as a total number of 202 patients were studied.
4) Patients seek medical attention for the initial symptoms of the disease (not signs, page 5).
5) El Escorial criteria for ALS have been widely accepted (instead of singular).
6) The conclusion includes a sentence (beginning with “When looking at…” that is not grammatically correct.

Level of interest: An article of limited interest

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