Peer Review File

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Reviewer A

1. For literature review it would be advised to include inclusion and exclusion criteria used for selected sources.

Reply: We added some data-inclusion and exclusion criteria in the Table 1. (page 16, 17)

2. How was quality bias assessed in papers used, what were the results?

Reply: Since this article is narrative review quality bias was not assessed. We followed Narrative Review guideline for reporting standards.

2. As this is a small review the characteristics of papers should be given, were there abstracts and previously reviews mostly used?

Reply: We got insight into each of the publication in extenso and added data concerning characteristics of papers in our manuscript.

Citations needed for these statements:

1. "progression of interstitial lung disease (reported with anti-TNF-α drugs) "

2. (152-153) :In individuals affected by AS, the decline in lung function typically manifests as a restrictive pattern, with a prevalence of 18-57%

3. Incorrect citation for this statement as it is taken from a review – these are the citations for these findings

Drăgoi R-G, Amaricai E, Drăgoi M, Popoviciu H, Avram CJCr. Inspiratory muscle training improves aerobic capacity and pulmonary function in patients with ankylosing spondylitis: a randomized controlled study. 2016;30(4):340-6.

44. Başakçı Çalık B, Kabul EG, Taskın H, Atalay OT,Aslan UB, Tascı M, et al. The efficiency of inspiratory muscle training in patients with ankylosing spondylitis. 2018;38(9):1713-20

Reply: We did corrections concerning citations for this statement (page 6, line 179)

Issues:

1. “As a possible cause of breathlessness in patients with axSpA it is important to consider cardiovascular disease, especially aortic valve disease, as part of the differential diagnosis" - much more to discuss here rather than a sentence” - I assume the idea is discuss heart failure as a differential for breathlessness in AxSpA patients- it should be discussed in more detail or removed as it does not discuss full structural heart disease associated with AxSpA”

Reply: We have removed this part of the text as advised as it does not discuss full structural heart disease associated with AxSpA (page 5, lines 154-5).

2. "In addition, these changes may develop as a result of recurrent pulmonary and respiratory infections, radiation to the chest and repeated cases of aspiration pneumonitis, often associated with oesophageal muscle dysfunction "- this is confusing for the reader- it is not clear it is listed as differentials for apical fibrosis - rather it reads as these as due to AxSpA

Reply: We have removed this part of the text since it is confusing fot the reader (page 6, lines 167-9).

3. "This highlights the importance of maintaining spinal mobility in the care of these patients" - Does it not highlight more the need to prevent radiographic progression also?

Reply: We have modified our text as advised (page 7, lines 199-202) emphasizing that the prevention of radiological progression, starting with the immediate initiation of adequate treatment, must be a top priority.

4. “The aim of this review is to emphasise the essential importance of timely diagnosis and vigilant monitoring of pulmonary manifestations in patients with axSpA. A thorough understanding of the pulmonary manifestations in people with axSpA is essential for accurate diagnosis and targeted treatment strategies” – Has this aim been met by this study, my understanding is the aim is to show the role ultrasound may have in detecting pulmonary manifestations this should be discussed as the aim listed here is not met in my opinion.

Reply: We have changed our text as advised (pages 10,11)- the aim is to show the role ultrasound may have in detecting pulmonary manifestations in axSpA. Careful monitoring of pulmonary changes plays a fundamental role in improving patient outcomes and quality of life. The use of ultrasound measurements to quantify diaphragm thickness, combined with an assessment of its respiratory mobility, provides objective insights into its functional dynamics.

5. “physical activity has the potential to improve and maintain respiratory function in axSpA patients over the long term. This improvement depends primarily on maintaining thoracic and spinal mobility, strengthening inspiratory muscles and improving functional capacity tailored to physical exertion”- while this is important this paper should discuss the radiographic and structural changes that cause respiratory issues and the role of therapeutics agents to prevent this

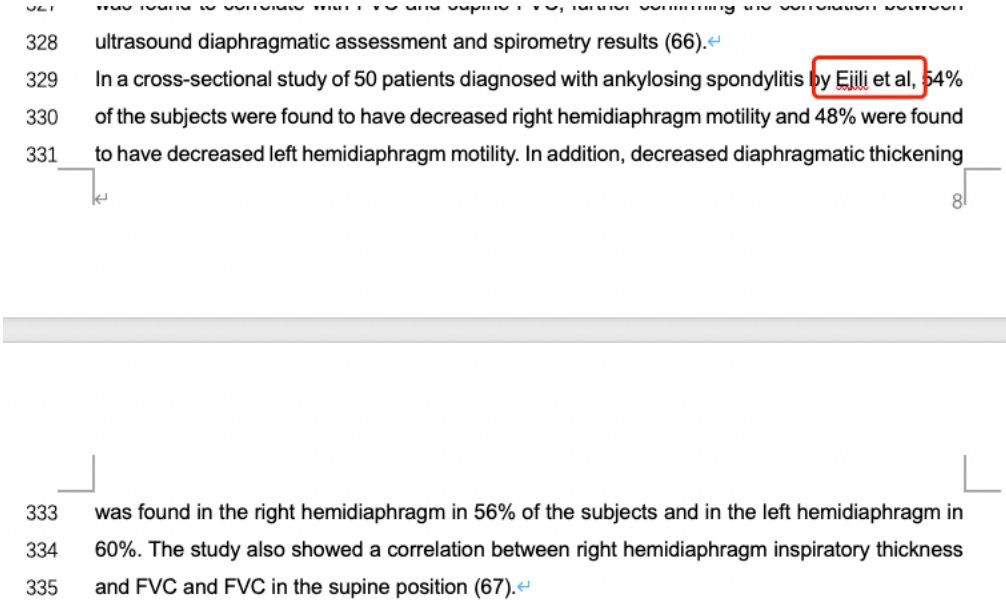
Reply: We have changed out text as advised (pages 11, lines 373-379) - a comprehensive, multidisciplinary therapeutic approach that includes careful monitoring of pulmonary changes plays a fundamental role in improving patient outcomes and quality of life. By detecting inadequate diaphragmatic mobility, ultrasound can alert the physician to a possible reduction in lung volume and capacity so that appropriate measures can be taken to optimize respiratory function. In contrast, the observation of increased diaphragmatic mobility during follow-up examinations can indicate improved disease control and a better response to therapy, so that treatment strategies can be targeted towards a better outcome for the patient. A nuanced understanding of these adaptive changes is essential for ongoing monitoring of the condition of axSpA patients to facilitate therapeutic interventions to optimize respiratory function.

Reviewer B

1. The " Background and Objective" section of the abstract should not only outline the study's objective but also provide information about the context underlying the research.

Reply: We provided information about the context underlying the research in " Background and Objective" section.

2. The author’s name should be checked for accuracy and consistency with the bibliography.


328 ultrasound diaphragmatic assessment and spirometry results (66).
329 In a cross-sectional study of 50 patients diagnosed with ankylosing spondylitis by Ejilli et al, 54%
330 of the subjects were found to have decreased right hemidiaphragm motility and 48% were found
331 to have decreased left hemidiaphragm motility. In addition, decreased diaphragmatic thickening
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333 was found in the right hemidiaphragm in 56% of the subjects and in the left hemidiaphragm in
334 60%. The study also showed a correlation between right hemidiaphragm inspiratory thickness
335 and FVC and FVC in the supine position (67).

Reply: We made corrections to ensure authors' names in the main text are consistent the bibliography.