Author’s response to reviews

Title: Efficacy of 99mTc-DTPA SPECT/CT in Diagnosing Orbitopathy in Graves’ Disease

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Nigel Glynn
Editor
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Dear Editor

I wish to express my profound gratitude for Your valuable comments concerning my work. With reference to the comments made by Reviewers, I would like to inform that below I present my answers to each reviewer/editorial point raised.

Laszlo Galuska (reviewer 1)

• On page 10, the line 17, printing mistake "out" has been corrected into „our”.

• The use of craniofacial muscles in this work, as a reference area for the proper accumulation of radiotracers, seems to us more appropriate than determining the area in
the brain. This is because we compare the accumulation of radiotracers in the same tissue, that is, in the muscles. In addition, the accumulation of $^{99m}$Tc-DTPA radiolabel in the brain is inappreciable due to the blood-brain barrier.

- Assessment of inflammation activity in the oculomotor muscle in this work is a binary visual method. Each accumulation of a radiotracer above the normal level in a reference area (craniofacial muscles) produces active inflammation. In the future, we will use the SUV parameter.

- The chapter "discussion" was supplemented with the latest references in this topic.

- We agree that, the disadvantage of active uptake calculation is the necessity of pre-calibration of SPECT system, which is a must for the final calculation. We ensure that in the later endocrine routine the pre-calibration of SPECT-CT will be included.

- We have extended the references and included articles published after 2015.

- The physiological $^{99m}$Tc-DTPA uptake of nasal mucosa is visible in both cases.

- In the "figure legend" section we added a sentence „The physiological $^{99m}$Tc-DTPA uptake of nasal mucosa is visible at both cases.”

Carla Moran (reviewer 2)

- Some patients have a positive CAS score but negative imagining on both modalities (MRI and SPECT/CT, n6/23). The reason behind it is that in order to differentiate the forms of GO (active and no-active), the method bases on the evaluation of clinical symptoms manifesting mainly as an expansion of the oculomotor muscles and the occurrence of exophthalmos. As we know, the muscles of a patient with active GO are frequently smaller in volume than those of a patient with non-active GO and vice versa.

- All the patients with suspected active (infiltrative-edematous) Graves' exophthalmos had been diagnosed with Graves' disease, confirmed by the presence of above normal levels of TRAb. In the face of the above, all recruits really have eye disease.

- In the Introduction section the reference has been added after the following statement: "The volume of $^{99m}$Tc-DTPA's accumulation at the site of inflammation, in this case in the soft tissue of the orbital cavity (mainly in the oculomotor muscles) is directly proportionate to the activity of the infiltrative and edematous process."

- "TSH-TRAb" was changed to the TSH receptor antibody (TRAb)

- In Tables 2, 3, 4, "sum" has been replaced with "total"

- "CAS scale" has been changed to "CAS score"
I would be very grateful if You could undertake the task of evaluating my paper once again in its present form and reconsider for publication the revised version.

Yours sincerely

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