Reviewer's report

Title: A musculoskeletal model of thyroid associated ophthalmopathy. The WOMED concept of lateral tension.

Version: 1 Date: 26 October 2006

Reviewer: Jack R. Wall

Reviewer's report:

General
General comment

The approach is novel, some would say “totally in left-field” but any new idea regarding the pathogenesis of TAO is worthwhile. The main question would be, ‘are the abnormalities of gait, stance, posture etc. secondary to having poppy eye and double vision or primary’? If the latter, it is difficult to imagine that some “mild inflammatory disorder of the systemic tissues” and muscle could cause eye disease. Are the authors seriously suggesting that this is the case?

Specific comments & questions

1. Acupuncture

Acupuncture remains a controversial but ancient technique and I am not sure of its significance in respect to management of ophthalmopathy. The authors need to reassure the readers that this is legitimate and scientifically based and explain the mechanism for the improvement in tension in patients with ophthalmopathy. Also, a description of the WOMED concept of lateral tension including its origins and scientific merits is necessary to bring the reader into the realm of reality.

2. Superoxide dismutase (SOD) in the role of ophthalmopathy

There is a paper by Barsouk et al in which abnormalities in SOD was found in patients with ophthalmopathy that might be relevant to the authors hypothesis and their present unique approach.

3. Evidence of systemic peripheral muscle disease in TAO

Calsequestrin is expressed five times more in eye muscle than other skeletal muscle and that is the reason that Gopinath et al studied these antibodies, which turned out to be highly specific and sensitive markers of eye muscle damage in patients with ophthalmopathy (and also in people with chronic upper eyelid disease). Typically, in Grave’s disease, there is not skeletal muscle involvement although there could be sub-clinical involvement. What do the authors believe in respect to the relationship between the eye muscle involvement and possible systemic disease and how do their findings support their hypothesis?

4. Discussion

The final paragraph and the discussion section of the manuscript concerns the use of “gold acupuncture needles”, the Dai mai point and altered body and foot positioning, suggesting that this is the major focus of the paper yet many would suggest that acupuncture does not have a true scientific basis and would be worried about this focus. Again, the authors need to reassure this reviewer and the potential readers about the significance of acupuncture in respect to the observed abnormalities and in particular the pathogenesis of TAO.

-------------------------------------------------------------------------------

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

-------------------------------------------------------------------------------

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Discretionary Revisions (which the author can choose to ignore)