Reviewer's report

Title: Role of Inflammatory Markers in Takayasu Arteritis Disease Monitoring: "All that Glitters is not Gold"

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Reviewer: Gokhan Keser

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O'Connor TE et al. present a non-compliant case of Takayasu Arteritis (TA) who developed stroke while acute phase reactants were decreasing. They point out two well known features of TA, the unreliability of ESR and CRP to reflect disease activity and the compensatory collateral vessel development. They also recommend that serial imaging be performed in every 3 months in the setting of active disease.

My comments are as follows:

1) One of the most important problems in TA is the lack of ideal parameters to assess disease activity. There is an excellent review summarizing the problems in assessment of disease activity and progression in TA (Direskeneli et al, Clin Exp Rheumatol 2011). The unreliability of ESR and CRP to reflect disease activity is a well known and classical feature of this disease, and there are many patients with TA having non-concordant acute phase responses. In this regard, the presented case is not a unique case. However, this case report may be helpful to remind this reality once again to the readers.

2) Imaging methods are obviously important not only in diagnosis, but also in assessment of disease activity in TA, however there is no single perfect imaging method, and each method has some advantages and disadvantages, as the authors discussed in the text. As also pointed out by Mavrogeni et al (reference no 23), establishing an imaging algorithm in TA evaluation is not universally acceptable at the moment, because it depends highly on technique availability and local expertise. Therefore, the statement “We recommend that serial imaging be performed every 3 months in the setting of active disease ……” should obviously be deleted. Currently there is no evidence to support this statement, and such a recommendation cannot be made based upon a single case report.

3) The presented case has two important features; she could not be followed up regularly and she had compliance problems with medications. One of the main problems seems to be lack of patient education, and the authors should briefly mention about the importance of patient education, regular visits and compliance in the management of TA.

4) In the chronic stages of TA where irreversible vessel occlusions develop, another treatment options are endovascular and/or surgical revascularization procedures. In selected cases, such approaches may be considered during inactive phase of disease. The authors should discuss whether the presented
case might have benefitted from such approaches before the development of stroke.

5) Since the authors discuss the importance of disease assessment, they should also mention about the recently described indexes such as “Disease Extent Index-Takayasu” (DEI-Tak) and Indian Takayasu’s Arteritis Score (ITAS) which were developed for this purpose.

6) As also pointed out in a recent review (Keser et al, Oxford Rheumatol 2013), assessment of disease activity in TA may be accomplished by the combined use of clinical findings, acute phase responses and defined clinical criteria including DEI-Tak, together with the evidence coming from various noninvasive imaging techniques. In other words, imaging is important but should always be combined with other parameters. Currently there is no consensus regarding, how often imaging methods should be used.

7) Finally, although conventional radiographic angiography (DSA) was considered as the gold standard for diagnosis of TAK, noninvasive imaging methods including MRA, CTA, and 18F-FDG PET/CT recently gained territory over DSA (reference no 23).

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

**Quality of written English:** Acceptable

**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.