

## Response to comment on: Diagnostic positron emission tomography-computed tomography in clinically elusive giant cell arteritis

Sir,

Many thanks to the authors of the letter<sup>[1]</sup> received in response to our article "Diagnostic positron emission tomography-computed tomography in clinically elusive giant cell arteritis".<sup>[2]</sup>

The letter argues that "Giant cell arteritis (GCA) can be categorized into cranial GCA and Large vessel GCA (LV-GCA)," however, this classification model is arbitrary and obsolete. Current thinking on GCA regards the condition as a continuum of medium to large vessel inflammatory disease ranging from polymyalgia rheumatic (PMR) to GCA. Thereby, accounting for the large variation in clinical presentation and the accompanying diagnostic challenge.

The prevalence of large vessel involvement in GCA, as the letter reports, is between "22%-85%" - which is considerable! Readers may be surprised to learn that patients with GCA are 17 times more likely to develop a thoracic aortic aneurysm and 2.4 times more likely to develop an abdominal aortic aneurysm.<sup>[3]</sup> Furthermore, advances in modern imaging now suggest that estimates of large vessel involvement in GCA may be grossly underestimated, and far greater than once thought.<sup>[4]</sup> For instance, Agard *et al.*, who conducted the first prospective study undertaking aortic CT scans in patients with recent-onset, biopsy proven GCA, found that specific inflammatory aortic thickening frequently coexists at

the time of GCA diagnosis.<sup>[5]</sup> Another case-series evaluating PET-CT in patients with GCA found evidence of aortitis in over half of cases.<sup>[4]</sup> GCA and LV-GCA are thus not discrete entities as the letter suggests, rather, there is considerable cross involvement.

The letter also asks "why PET-CT of aorta was done as the first investigation for a patient with signs of only cranial GCA?" Well, considering the substantial cross involvement described, in some clinical instances, such as the case reported, PET-CT (where available) can provide the necessary tilt in a clinician's index of suspicion to warrant starting steroid treatment.

The letter mentions concern that "A negative aortic PET-CT cannot rule out cranial GCA." This is true, but, a negative temporal artery biopsy (TAB), our current "Gold" standard, also cannot rule out GCA. Both PET-CT and TAB are liable to produce false negatives- therein lies the need for considered clinical judgment in the highly complex investigation of this often ill understood disease.

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### Conflicts of interest

There are no conflicts of interest.

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