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How do you Diagnose Giant Cell Arteritis if the Biopsy is Negative?

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LETTER TO THE EDITOR

We read with interest the article by Moudrous, *et al*. on a study of 94 patients with giant cell artery (GCA) to develop a predictive model in the event that temporal artery biopsy (TAB) is not required to confirm GCA [Moudrous, W. *et al*., 2022]. It was found that 70% of the 94 patients had ≥1 superficial temporal artery halos on ultrasound that only 30% of patients had a positive TAB, and that four independent variables predicted a positive TAB (weight loss, bilateral headache, positive halo sign, and thrombocytosis). The receiver operator curve (ROC) of the model had an area under the curve of 0.932 with a positive predictive value (PPV) of 83% and a negative predictive value (NPV) of 94% [Moudrous, W. *et al*., 2022]. It was concluded that TAB is indicated when ≥3 of the four risk factors were present [Moudrous, W. *et al*., 2022]. The study is appealing, but raises concerns that require further discussion.

Since temporal artery biopsy (TAB) is the gold standard for diagnosing GCA [Ponte, C. *et al*., 2022], the diagnosis remains uncertain in 70% of included patients, because they had a negative biopsy. Although the statistics are impressive, they are only as good as the data. We should know how the 70% of patients with a negative biopsy were diagnosed with GCA. To improve the accuracy of the results, it is recommended to calculate sensitivity, specificity and ROC only from patients diagnosed with GCA using a diagnostic TAB. It is uncertain whether the 70% with a negative biopsy actually had GCA. We should know how many of these patients did not meet the American College of Rheumatology/EULAR 2022 classification criteria for GCA [Ponte, C. *et al*., 2022], The presented prediction model incorrectly assumes that all included patients actually suffered from GCA.

It is incomprehensible why hemiparesis was an exclusion criterion [Moudrous, W. *et al*., 2022]. GCA can be complicated by ischemic stroke due to involvement of cerebral arteries. Therefore, patients with a stroke should not be excluded from enrolment. It is also incomprehensible why "vasculitis" was an exclusion criterion. The authors aimed to prospectively study patients with a subtype of vasculitis. Therefore, the exclusion of "vasculitis" is contradictory.

There is a discrepancy between the abstract and the results section and the heading of table 1. The abstract mentions that 94 patients were studied but caption of figure 1 only states that the results of 93 patients are presented. This discrepancy should be clarified.

Statistical analysis revealed that thrombocytosis is an independent variable predicting GCA [Moudrous, W. *et al*., 2022]. However, only 13 patients had thrombocytosis [Moudrous, W. *et al*., 2022]. This discrepancy should be explained.

No explanation is given as to why 70% had a negative biopsy result. We should know how many of these patients had already received steroids before the biopsy or were taking immunosuppressive medications for a long period time for other causes.

Information about the treatment received by the included patients is missing. A beneficial therapeutic effect can support the diagnosis GCS, particularly in the 70% of patients with a negative biopsy.

Overall, the study has obvious limitations that require reassessment and discussion. Clarifying these weaknesses would strengthen the conclusions and could improve the study.

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