ASSOCIATION BETWEEN SPECIMEN LENGTH AND NUMBER OF SECTIONS AND DIAGNOSTIC YIELD OF TEMPORAL ARTERY BIOPSY: A RETROSPECTIVE, SINGLE CENTER EXPERIENCE OVER A 21 YEARS' PERIOD

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Background: Temporal artery biopsy (TAB) showing inflammation is considered the gold standard for the diagnosis of giant cell arteritis (GCA). However, sampling error may lead to a negative TAB, and a negative TAB does not rule out GCA. The diagnostic sensitivity of TAB can be affected by the discontinuous nature of the lesion, sampling error may lead to a negative TAB, and a negative TAB does not rule out GCA. However, there is no statistical evidence that a negative TAB rules out GCA. The diagnostic sensitivity of TAB can be affected by the discontinuous nature of the lesion, sampling error may lead to a negative TAB, and a negative TAB does not rule out GCA. However, there is no statistical evidence that a negative TAB rules out GCA.

Methods: To investigate the association between specimen length and number of section and the diagnostic yield of TAB for GCA.

Results: 694 TABs were performed in the study period and were reviewed. 3,2 (4.6%) of the 694 TABs were classified as inadequate and were excluded from the analysis. Of the remaining 662 TABs (71% female; mean SD age, 73.2 (8.8) years, mean SD post fixation length was 6.63 (4.42) mm, and median number of sections evaluated was 3 (range 1-33). 382 (58%) TABs were classified as negative and 279 (42%) as positive. Compared with negative TAB, patients with positive TAB were older [mean age (SD) 74 (75) years vs 72 (9.6), p<0.009] and there was a trend for female predominance (75% vs 68%, p<0.077). Post-fixation length of the specimens was significantly lower in negative compared with positive TAB [mean (SD) 6.37 (4.26) mm vs 6.99 (4.61) mm, respectively, p=0.026]. Piecewise logistic regression identified 5.5 mm as the TAB length change point for diagnostic sensitivity. Compared with TAB length of <5 mm, age- and sex-adjusted odds ratio for positive TAB in samples ≤5 mm long was 1.538 (95% confidence interval, 1.108 to 2.130).

Conclusion: Post-fixation TAB length of at least 5 mm should be sufficient to make a histological diagnosis of inflamed temporal artery. According to our data, in order to avoid missing significant inflammatory lesions, at least 3 subsequent sections at deeper levels should be cut and evaluated in all negative TABs.

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