

Temporal Artery Biopsies-Is there still a need?

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Introduction

With the introduction of colour Doppler ultrasound (CDUS) as a diagnostic method for Giant Cell Arteritis (GCA) we question the ongoing need for temporal artery biopsy (TAB). Many studies have shown that TAB is less sensitive than CDUS as it assesses a relatively small region in a diffuse disease¹. TAB comes with known risks such as facial nerve injury as well as costs to the health system. Finding theatre time can often result in a delay to diagnosis.

Aim

To assess the diagnostic value in Temporal artery biopsies performed by general surgery at Auckland City Hospital.

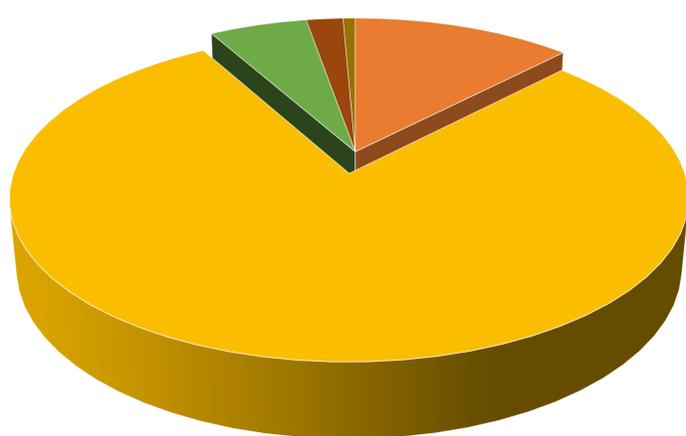
Method

This is a retrospective study evaluating five year data (2015-2020) from temporal artery biopsies performed by General Surgery of the Auckland District Health Board (ADHB). Using clinical coding data, temporal artery biopsies performed by general surgery were identified. Data collected included date of surgery, ethnicity, age, CRP and ESR pre-operatively, dose and number of days on glucocorticoid and histological findings.

Results

146 Temporal artery biopsies were performed by General Surgery in this time. 18 (12%) of these had histological findings in keeping with GCA, 116 (79%) showed no evidence of GCA, eight probable healed GCA, three specimens contained nerve and one vein.

All patients except one were started on high dose glucocorticoids preoperatively ranging from 3 days to 19 days. CRP was raised on all positive patients pre-operatively and ranged from 14-235, with a mean 91.8 and a standard deviation (SD) 66.3. ESR ranged 25-129, with a mean 84.9 and SD 36.0. Ages ranged from 67-85.



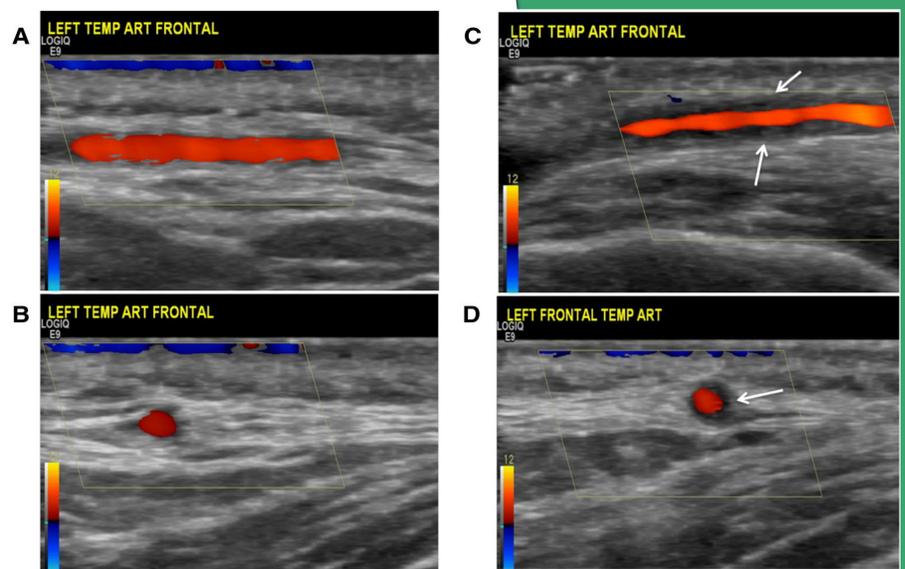
■ Positive ■ Negative ■ Probable healed ■ Nerve ■ Vein

Colour doppler USS

As of 2018 Rheumatologists at Auckland City Hospital started using colour doppler USS as a diagnostic tool in GCA, however they continue to TAB in conjunction with this.

Although TAB is the traditional pathway for diagnosis of GCA, Colour Doppler ultrasound (CDUS) as a diagnostic method for Giant Cell is becoming more prominent.

Many studies have shown that TAB is less sensitive than CDUS as it assesses a relatively small region in a diffuse disease and doesn't account for skip lesions. However it is less specific so with a high clinical suspicion and negative US a role still remains for TAB



Temporal artery ultrasound images showing a longitudinal and b cross-sectional images of a normal artery; c longitudinal and d cross-sectional image of the non-compressible, hypoechoic halo sign

Conclusion

- Low positive rate in TABs performed at Auckland City Hospital.
- Decision for TAB should be more discerning with referral criteria.
- Where available colour doppler USS should be used as first diagnostic test.

