

# Temporal artery biopsies – Audit of Histopathological criteria outcomes

S.Patel DCT2, A.Hasan OMFS ST4, RM Graham OMFS  
Consultant, S.Edwards Consultant Pathologist (TROH)

**North Manchester General Hospital**



# Background

- Temporal/Giant cell arteritis (GCA), is a granulomatous autoimmune vasculitis.<sup>1</sup>
- The most serious clinical manifestation includes sudden blindness<sup>2</sup>.
- Temporal artery biopsy (“TABx”) is the gold standard for diagnosis of GCA<sup>3</sup>.
- No standardised histopathological classification systems available

# Aims

- To assess compliance with local reporting histopathologist standards
- To assess level of detail included
- To assess sensitivity of temporal artery biopsies

# Standards

Local reporting histopathologist standards:

1. Appropriate length and full-face section of lumen available
2. Presence of inflammation; classification into acute/chronic
3. Presence of giant cells
4. Disruption of internal elastic lamina

# Method

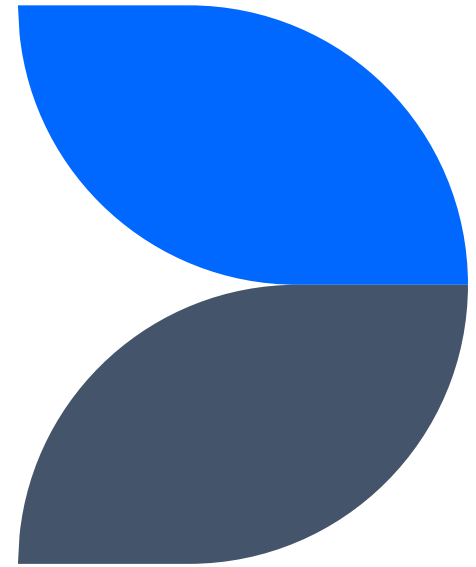
- Data from 124 TABx's performed compared to local reporting histopathologist's standards.

Additional assessment of:

- Level of detail
- Histopathological features
- Positive/negative biopsy
- Whether clinical diagnosis made (rheumatology)

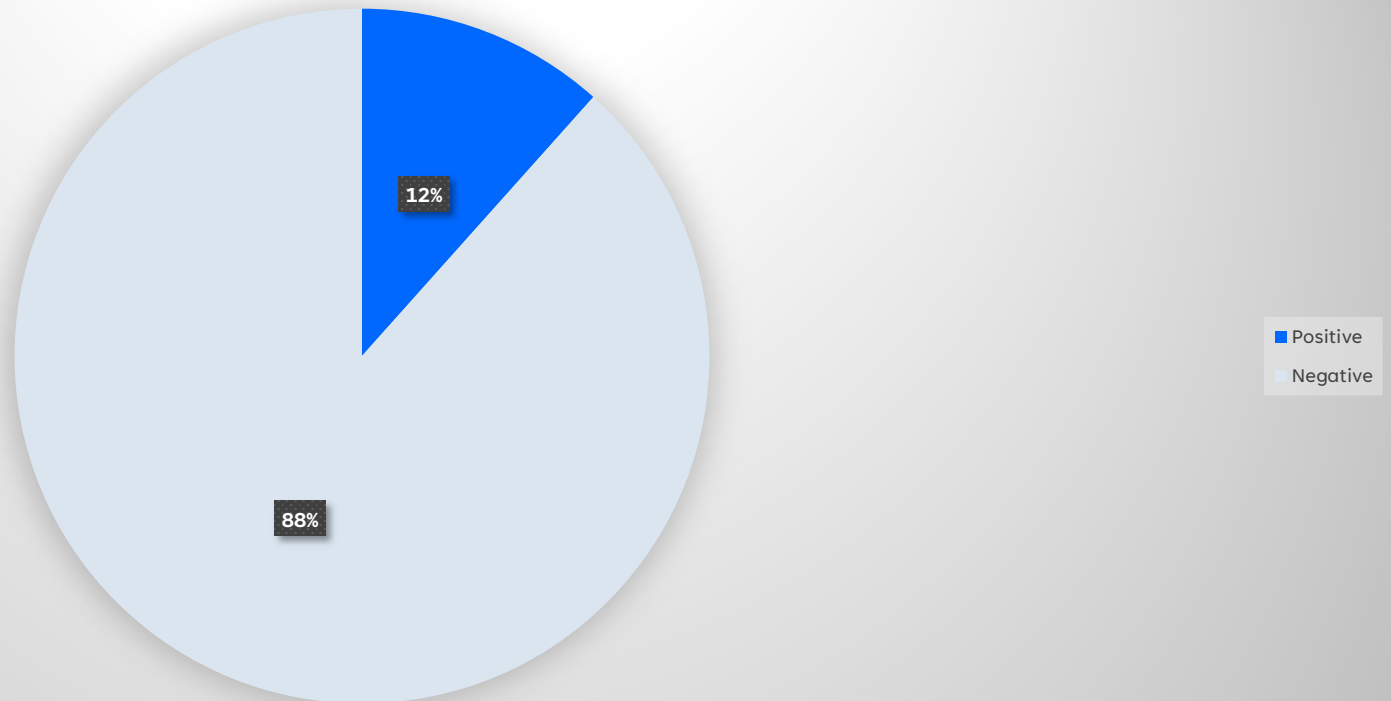


**Results**

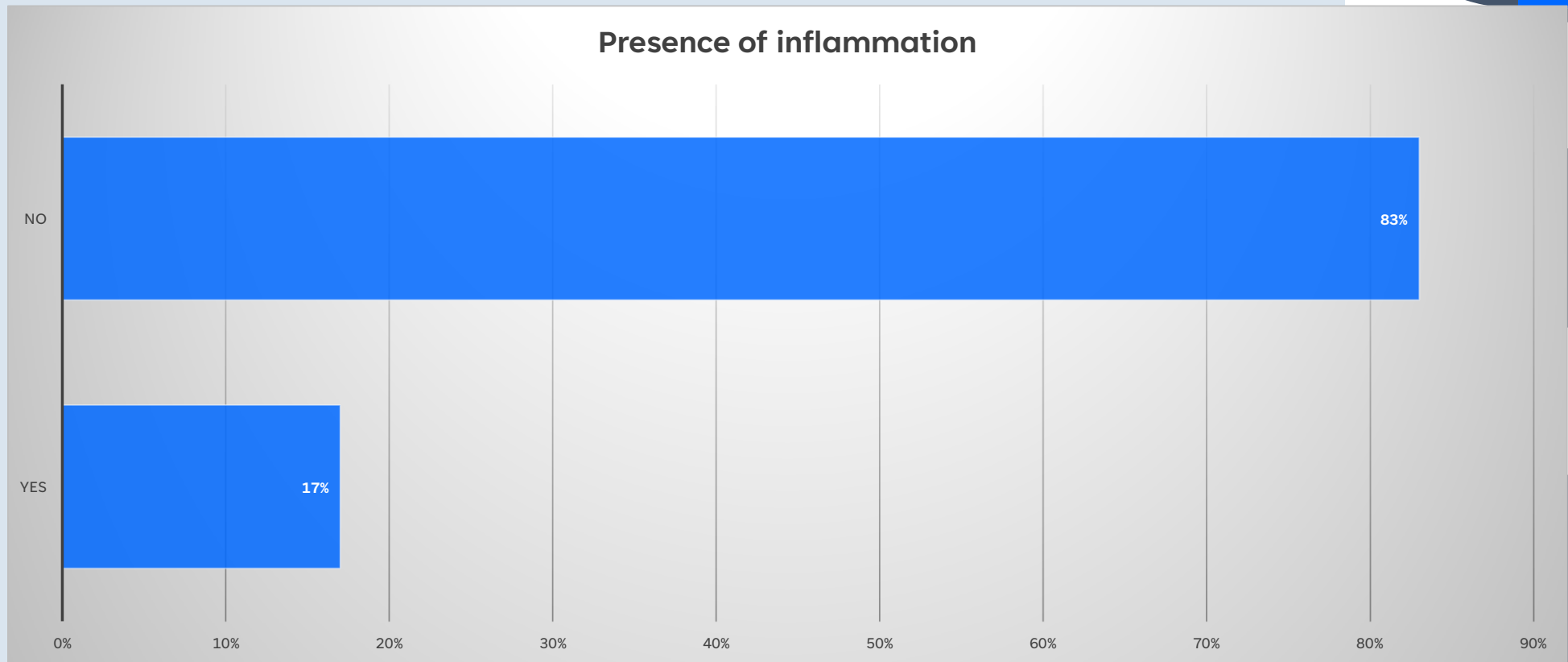


# Temporal artery biopsy result

Temporal artery biopsy results

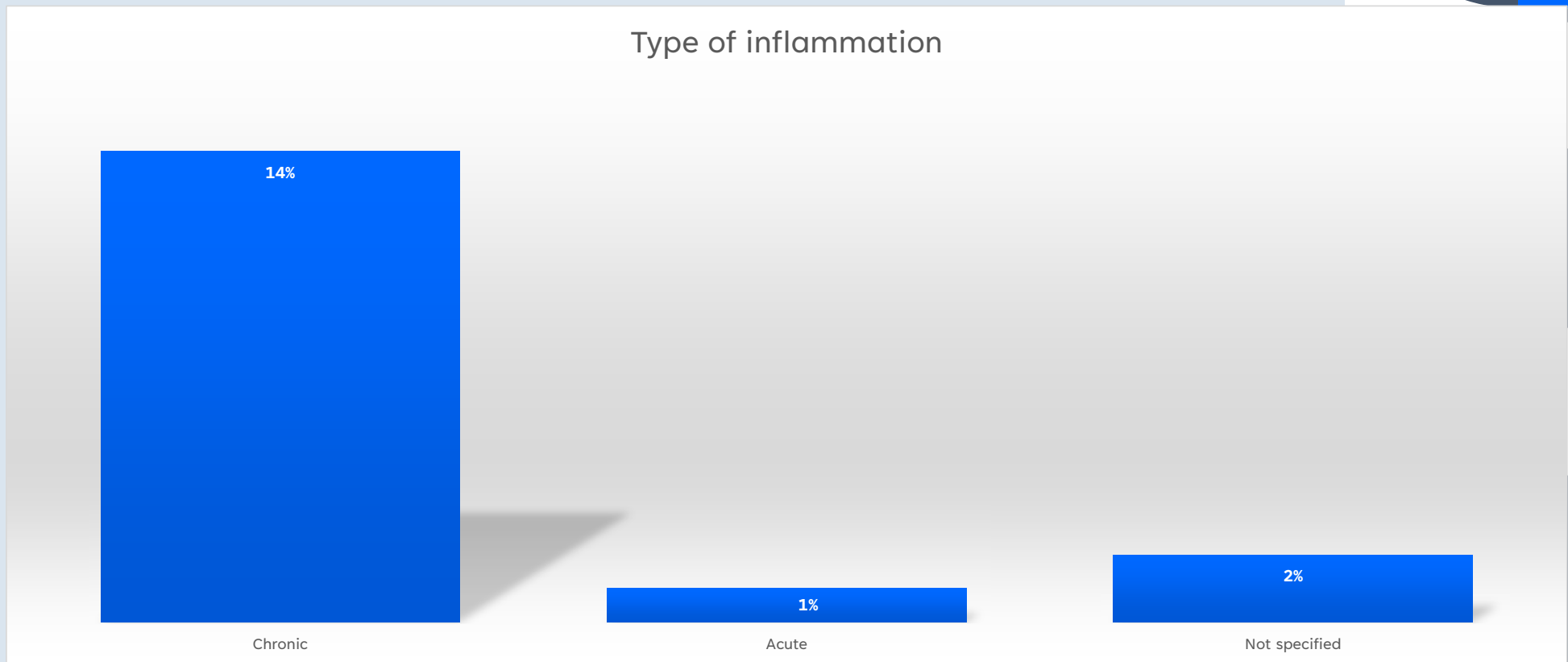


# Presence of inflammation

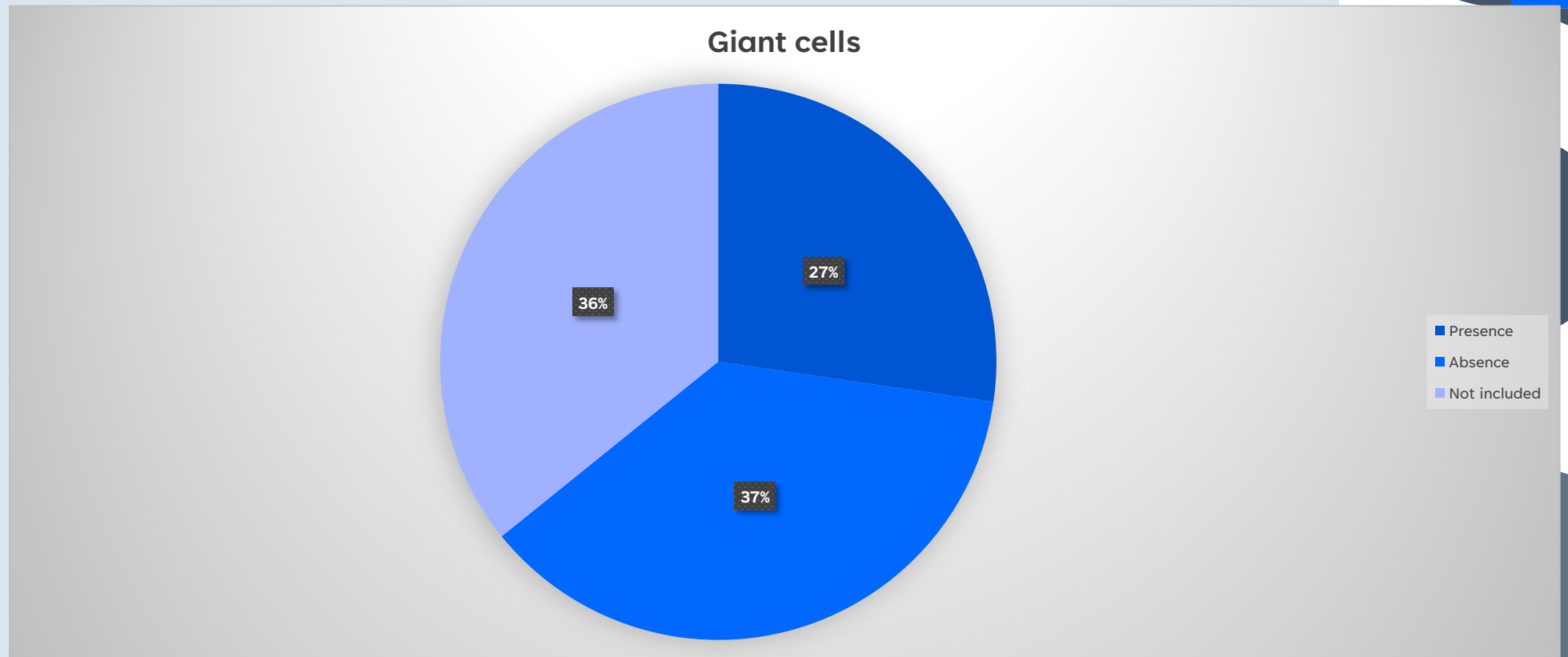




# Type of inflammation

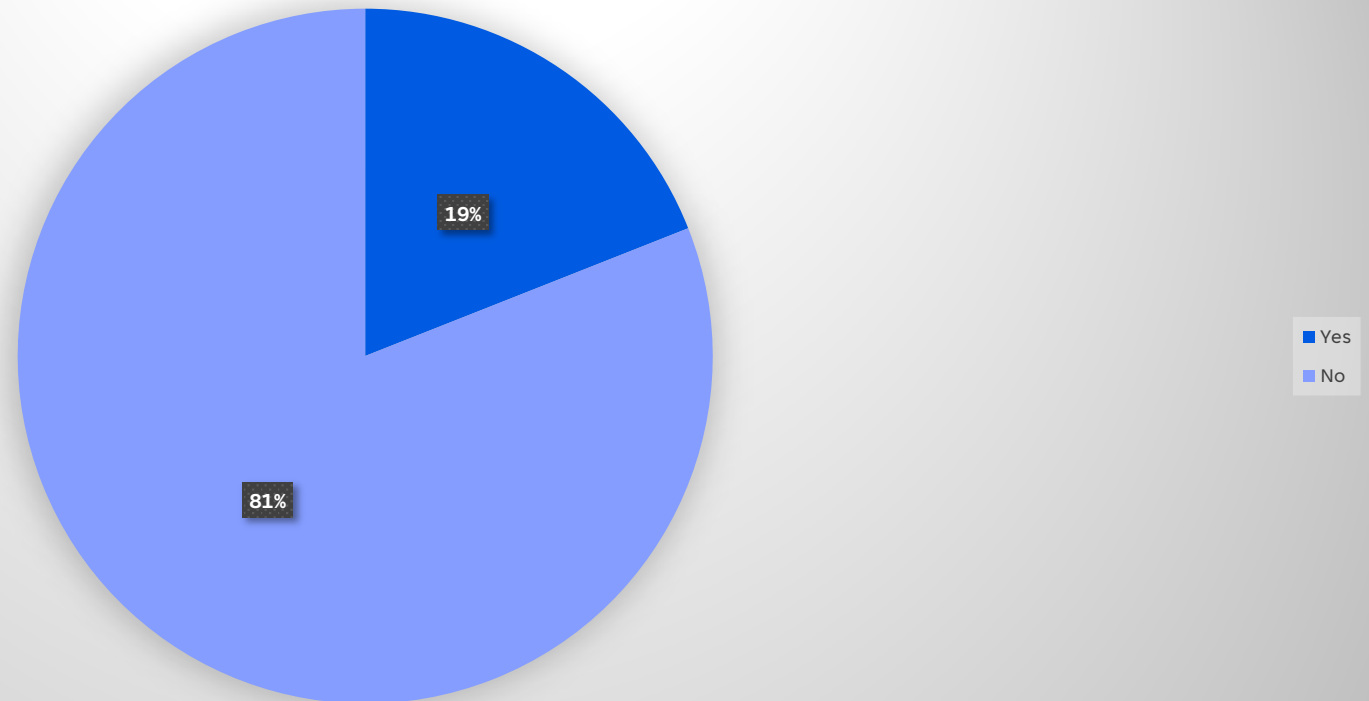


# Presence of giant cells

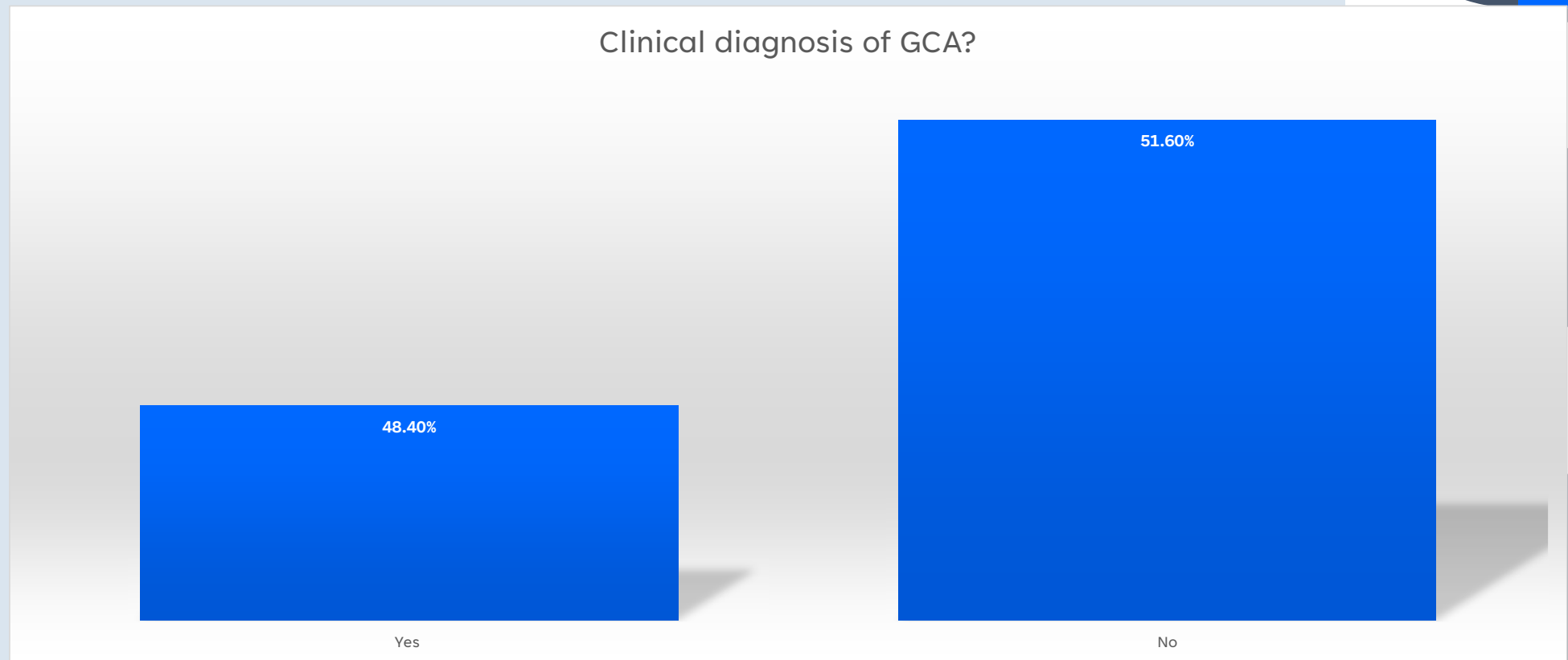


# Disruption of internal elastic lamina

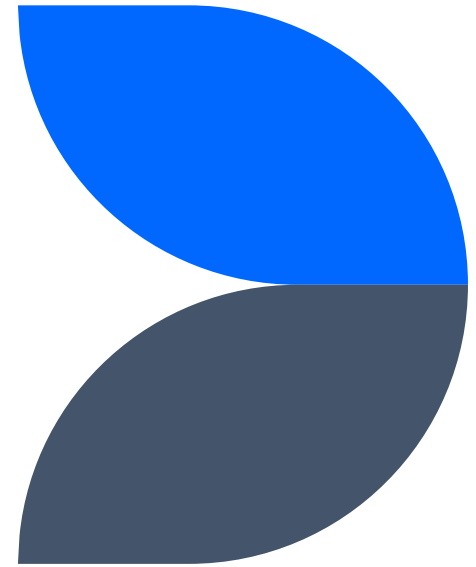
Disruption of internal elastic lamina



# Clinical diagnosis of GCA



**Discussion**



# TABx Sensitivity

- Reduced sensitivity in data set
- Average specimen length was 21.8mm
- Steroid duration and dose

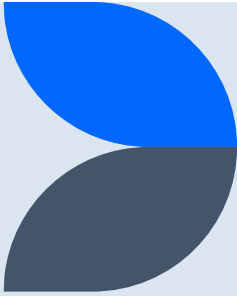







# Evidence-based guidance

- Disruption of the internal elastic lamina
- Multinucleated giant cells vs mononuclear cells
- Categorisation of distinct patterns of inflammation



# Conclusion



- 1**   
Limited detail
- 2**   
Reduced TABx sensitivity of 23.9% compared to 61% reported in literature
- 3**   
A need for a standardised evidence-based approach required
- 4**   
Stratification of inflammatory patterns
- 5**   
Re-audit 24 months



# References

1. <https://www.ncbi.nlm.nih.gov/books/NBK459376/>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4593263/#:~:text=Discussion,Giant%20cell%20arteritis%20with%20ocular%20involvement%20is%20an%20ocular%20emergency,associated%20with%20giant%20cell%20arteritis.&text=It%20usually%20presents%20with%20a,%20pale%20optic%20disc%20oedema>
3. <https://ard.bmj.com/content/81/12/1647>
4. [https://www.rheumatology.org/Portals/0/Files/Giant%20Cell%20\(Temporal\)%20Arteritis%20-%201990\\_Completed%20Article.pdf](https://www.rheumatology.org/Portals/0/Files/Giant%20Cell%20(Temporal)%20Arteritis%20-%201990_Completed%20Article.pdf)
5. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5318845/>
6. [https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913\(20\)30222-8/fulltext](https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913(20)30222-8/fulltext)
7. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5479941/>



# Thank you

Questions?

