

## Giant Cell Arteritis: Biopsy After Corticosteroid Initiation

BRIAN DAILY, MD; PAUL DASSOW, MD; and JAMES HAYNES, MD, *University of Tennessee College of Medicine, Chattanooga, Tennessee*

JOAN NASHELSKY, MLS, *University of Iowa Center for Human Rights, Iowa City, Iowa*

Clinical Inquiries provides answers to questions submitted by practicing family physicians to the Family Physicians Inquiries Network (FPIN). Members of the network select questions based on their relevance to family medicine. Answers are drawn from an approved set of evidence-based resources and undergo peer review. The strength of recommendations and the level of evidence for individual studies are rated using criteria developed by the Evidence-Based Medicine Working Group (<http://www.cebm.net/?o=1025>).

The complete database of evidence-based questions and answers is copyrighted by FPIN. If interested in submitting questions or writing answers for this series, go to <http://www.fpin.org> or e-mail: [questions@fpin.org](mailto:questions@fpin.org).

This series is coordinated by John E. Delzell Jr., MD, MSPH, Assistant Medical Editor.

A collection of FPIN's Clinical Inquiries published in *AFP* is available at <http://www.aafp.org/afpin>.

### Clinical Question

What is the maximum recommended delay for obtaining a temporal artery biopsy after initiation of corticosteroids in patients with suspected giant cell arteritis?

### Evidence-Based Answer

Corticosteroid therapy in patients with suspected giant cell arteritis should not degrade the accuracy of temporal artery biopsy if the biopsy is performed within four weeks of corticosteroid initiation. Temporal artery biopsy can be performed up to four weeks after starting high-dose corticosteroid therapy. (Strength of Recommendation: B, based on one small prospective study and multiple retrospective cohort studies.)

### Evidence Summary

A 2002 prospective randomized controlled trial enrolled patients with at least three of the four American College of Rheumatology clinical criteria for giant cell arteritis who had not started corticosteroid therapy.<sup>1</sup> Patients were randomized to be biopsied at either one to seven days, eight to 29 days, or 30 to 48 days after starting therapy. Only 11 patients were recruited; therefore, no statistical comparisons were made. Overall, nine of the 11 patients had positive biopsies. Five of six biopsies (83%) were positive in patients treated for more than four weeks, whereas four of five (80%) were positive in those treated for less time.

A 1994 large retrospective cohort study assessed the association of temporal artery biopsy results with prior corticosteroid therapy.<sup>2</sup> Data from 535 consecutive patients who underwent biopsy for suspected giant cell arteritis were reexamined by experienced pathologists blinded to clinical data,

previous corticosteroid therapy, and original pathologic diagnosis. They found a 94% correlation with the original biopsy result ( $\kappa = 0.87$ ). There was no statistical difference in positive biopsy results between patients who had not received corticosteroids before biopsy and those who had (31% vs. 35%; 4% difference; 95% confidence interval [CI], -4.7% to 11.5%;  $P = .4$ ). A logistic regression model controlling for clinical features suggestive of arteritis showed no difference in the rate of positive biopsies based on treatment delay. The odds ratio of a positive biopsy result in those treated with prednisone for one to seven days compared with untreated patients was 1.23 (95% CI, -0.72 to 2.12).

A 2007 retrospective cohort study enrolled 78 patients who were treated with corticosteroids prior to temporal artery biopsy.<sup>3</sup> Giant cell arteritis was diagnosed by positive biopsy or the presence of all four clinical criteria. Patients were grouped into three categories: those treated for less than two weeks, those treated for two to four weeks, and those treated for more than four weeks prior to biopsy. Eight patients were excluded because of long-term corticosteroid treatment for polymyalgia rheumatica. Biopsy results were positive in 78% of those treated less than two weeks, 65% in those treated for two to four weeks, and 40% in those treated for more than four weeks. There was a negative correlation ( $r = -0.169$ ,  $P = .08$ ), although it did not reach statistical significance.

A retrospective case-control study in 2012 evaluated 335 patients with suspected giant cell arteritis, 81 of whom had a positive temporal artery biopsy.<sup>4</sup> Clinical, epidemiologic, and pathology data were used

to generate a logistical regression analysis. There was no independent association between the number of days of prior corticosteroid treatment for each group and the biopsy result (three vs. 0 days;  $P = .146$ ; Mann-Whitney test).

### Recommendations from Others

The British Society for Rheumatology recommends temporal artery biopsy within one week of glucocorticoid initiation. It further recommends that biopsy should not delay the initiation of corticosteroid treatment and notes that the biopsy may remain positive for two to six weeks after the initiation of corticosteroids.<sup>5</sup> Neither the American College of Rheumatology nor the American Academy of Ophthalmology has endorsed practice recommendations for the diagnosis of giant cell arteritis.

Copyright Family Physicians Inquiries Network. Used with permission.

Address correspondence to James Haynes, MD, at [james.haynes2@erlanger.org](mailto:james.haynes2@erlanger.org). Reprints are not available from the authors.

Author disclosure: No relevant financial affiliations.

### REFERENCES

1. Ray-Chaudhuri N, Kiné DA, Tijani SO, et al. Effect of prior steroid treatment on temporal artery biopsy findings in giant cell arteritis. *Br J Ophthalmol*. 2002;86(5):530-532.
2. Achkar AA, Lie JT, Hunder GG, O'Fallon WM, Gabriel SE. How does previous corticosteroid treatment affect the biopsy findings in giant cell (temporal) arteritis? *Ann Intern Med*. 1994;120(12):987-992.
3. Narváez J, Bernad B, Roig-Vilaseca D, et al. Influence of previous corticosteroid therapy on temporal artery biopsy yield in giant cell arteritis. *Semin Arthritis Rheum*. 2007;37(1):13-19.
4. González-López JJ, González-Moraleja J, Burdaspa-Moratilla A, et al. Factors associated to temporal artery biopsy result in suspects of giant cell arteritis: a retrospective, multicenter, case-control study. *Acta Ophthalmol*. 2012;91(8):763-768.
5. Dasgupta B, Borg FA, Hassan N, et al. BSR and BHPR guidelines for the management of giant cell arteritis. *Rheumatology (Oxford)*. 2010;49(8):1594-1597. ■

## New! 2017 Medicare Wellness Visit Toolkit



Save staff time and increase efficiency. Establish a systematic approach to Medicare wellness visits.

**Maximize productivity.  
Download today.**  
[aafp.org/fpm/codingtools](http://aafp.org/fpm/codingtools)



AMERICAN ACADEMY OF  
FAMILY PHYSICIANS

Family Practice Management<sup>®</sup>