

Unilateral versus Bilateral Temporal Artery Biopsy: A Review of the National Inpatient Sample from 2016-2021

Ben Palatnik, BS; Sean Nguyen MD; Pravin Meshram, MD, MBBS, MSPH; Sayeed Ikramuddin, MD, MHA; James Harmon, MD, PhD

BACKGROUND

- Temporal artery biopsy (TAB) is the gold standard for diagnosis of Giant Cell Arteritis (GCA).
- TAB may be bilateral (bTAB) or unilateral (uTAB) with recent guidelines recommending uTAB.
- We aimed to compare uTAB vs bTAB utilization through a large, nationally-representative database.

MATERIALS & METHODS

~20% weight sample of all hospitals' inpatient admissions using the National Inpatient Sample.

Samples re-weighted to reflect total number of inpatient admissions.

Unilateral vs Bilateral TAB identified via ICD-10 from 2016-2021.

Hospital and Patient characteristics identified (e.g., hospital ownership, patient comorbidities).

Outcome variables identified (e.g., in-hospital mortality, GCA diagnosis, complications).

Statistical analysis for uTAB vs bTAB utilization, outcomes, and incidence.

RESULTS

Characteristics	Unilateral TAB (n=17,205)	Bilateral TAB (n=6,730)	P-value
Age, median (IOR)	71 (62–78)	72 (63–79)	<0.004
Sex			
Male	5875 (34.1%)	2475 (36.8%)	0.092
Female	11330 (65.9%)	4255 (63.2%)	
Race			
White	11175 (65.0%)	4780 (71.0%)	<0.001
Black	3235 (18.8%)	1095 (16.3%)	
Hispanic	1750 (10.2%)	495 (7.4%)	
Asian/Pacific Islander	455 (2.6%)	155 (2.3%)	
Native American	45 (0.3%)	40 (0.6%)	
Other	545 (3.2%)	165 (2.5%)	
Income (Quartile)			
1 st (lowest)	4915 (28.6%)	1590 (23.6%)	0.006
2 nd	4330 (25.2%)	1725 (25.6%)	
3 rd	4310 (25.1%)	1880 (27.9%)	
4 th (highest)	3650 (21.2%)	1535 (22.8%)	
Payer			
Medicare	11815 (68.7%)	4855 (72.1%)	0.02
Medicaid	1640 (9.5%)	465 (6.9%)	
Private	3010 (17.5%)	1130 (16.8%)	
Self-pay	405 (2.4%)	120 (1.8%)	
No charge	35 (0.2%)	NR	
Other	300 (1.7%)	155 (2.3%)	
Hospital teaching status and location			
Rural	755 (4.4%)	175 (2.6%)	0.002
Urban nonteaching	2870 (16.7%)	1360 (20.2%)	
Urban teaching	13580 (78.9%)	5195 (77.2%)	
Hospital control			
Government, nonfederal	1915 (11.1%)	430 (6.4%)	<0.001
Private, nonprofit	13500 (78.5%)	5580 (82.9%)	
Private, investor-owned	1790 (10.4%)	720 (10.7%)	

Table 1: Tabulation of various personal and hospital characteristics and the distribution between uTAB and bTAB. NR indicates a count < 10, which cannot be reported quantitatively.

Outcome	Unilateral TAB (n=17,205)	Bilateral TAB (n=6,730)	P-value
Mortality	130 (0.8%)	40 (0.6%)	0.55
Length of stay in days, median (IQR)	5 (3–7)	5 (3–8)	<0.001
Total cost in dollars, median (IQR)	12959 (9158–19592)	14212 (10137–21308)	<0.001
Giant cell arteritis	8160 (47.4%)	2960 (44%)	0.031
Complications			
Infectious complication	NR	NR	0.330
Nerve injury	55 (0.3%)	NR	0.307
Noninfectious soft tissue complication	50 (0.3%)	20 (0.3%)	0.97
Wound dehiscence	15 (0.1)	NR	0.279
Composite complications	125 (0.7%)	40 (0.6%)	0.619

Table 2. Outcomes and complications of unilateral and bilateral temporal artery biopsy. NR indicates a count < 10, which cannot be reported quantitatively.

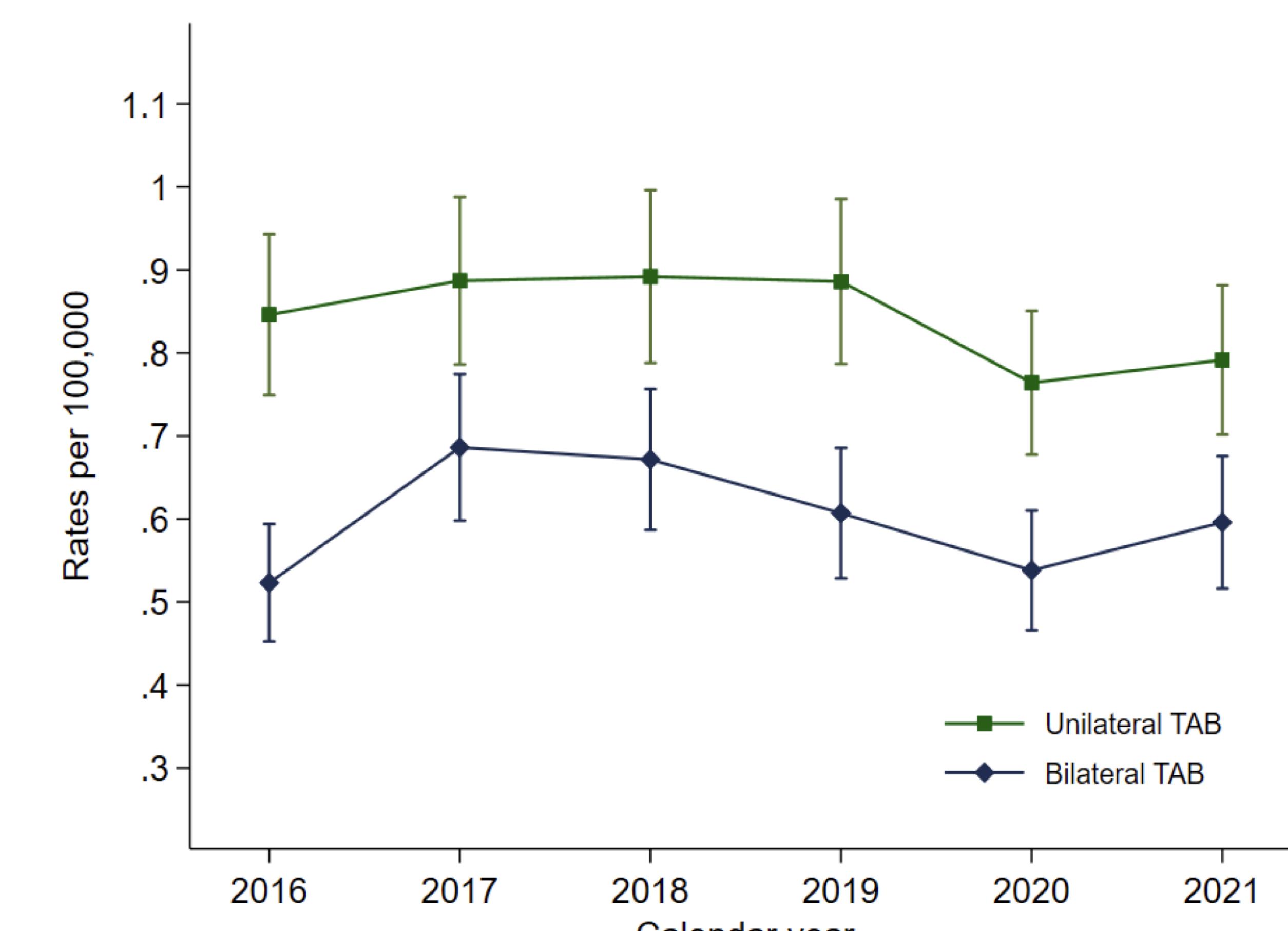


Figure 1. Age- and sex-adjusted incidence rate of inpatient unilateral and bilateral temporal artery biopsy by year. uTAB routinely is performed more often than bTAB nationally.

CONCLUSIONS

- Patients who underwent uTAB were more frequently diagnosed with GCA, perhaps due to increased pretest probability.
- While complications were similar, total cost were less with uTAB.
- Our results show racial- and hospital-level TAB modality differences.

REFERENCES

