ARCHIVES OF THE
TURKISH SOCIETY
OF CARDIOLOGY

Official journal of the
TURKISH
SOCIETY OF
CARDIOLOGY

Letter to the Editor: Stress Hyperglycemia Ratio is Associated with Intracardiac Thrombus in Acute Ischemic Stroke

Editöre Mektup: Akut İskemik İnmede Stres Hiperglisemi Oranı ile İntrakardiyak Trombüs Arasındaki İlişki

LETTER TO THE EDITOR
EDİTÖRE MEKTUP

To the Editor,

I read with great interest the article by Cicek et al.[1] entitled "Stress Hyperglycemia Ratio Is Associated with Intracardiac Thrombus in Acute Ischemic Stroke." The authors are to be commended for addressing a clinically important challenge in acute ischemic stroke: identifying occult intracardiac thrombus in patients with otherwise unremarkable transthoracic echocardiographic findings. In a cohort of patients with acute ischemic stroke and negative transthoracic echocardiographic (TTE) findings, they demonstrated that the stress hyperglycemia ratio (SHR) was independently associated with intracardiac thrombus detected by transesophageal echocardiography (TEE). Their findings suggest that SHR may serve as a practical and readily available biomarker for identifying patients who may benefit from further cardioembolic evaluation.

The study is particularly valuable because it addresses a common clinical dilemma: selecting patients for TEE despite unremarkable transthoracic imaging findings. Because TEE is semi-invasive and not routinely performed in every patient with ischemic stroke, identifying simple biomarkers that may improve patient selection is of considerable clinical importance. However, I would like to offer an additional perspective on the interpretation of the association between SHR and intracardiac thrombus. Stress hyperglycemia is increasingly recognized as a marker of systemic inflammatory activation, sympathetic overactivity, and acute physiological stress.[2] Therefore, elevated SHR may not solely reflect a prothrombotic state but may also represent the magnitude of the inflammatory and neuroendocrine response.[3] In the present study, C-reactive protein levels were also independently associated with intracardiac thrombus, supporting the possibility that inflammation may play a central role in the observed relationship.

Another noteworthy observation is the remarkably high prevalence of paroxysmal atrial fibrillation among patients with intracardiac thrombus. Contemporary evidence suggests that thromboembolic risk is influenced not only by the presence of atrial fibrillation but also by atrial remodeling, atrial cardiomyopathy, and overall atrial fibrillation burden.[4,5] Consequently, the association between SHR and intracardiac thrombus may partially reflect a more advanced atrial disease substrate rather than a direct effect of stress hyperglycemia itself. Future studies incorporating prolonged rhythm monitoring, left atrial functional assessment, and markers of atrial cardiopathy may provide additional mechanistic insights.

Furthermore, because both inflammatory and metabolic pathways appear to contribute to thrombus formation, it would be interesting to investigate whether combining SHR with inflammatory markers could improve risk stratification beyond either parameter alone. Such an integrated approach may better identify patients who are most likely to harbor occult cardioembolic sources and, therefore, derive greater benefit from TEE evaluation.

I congratulate the authors for their valuable contribution to the literature. Their findings provide an important foundation for future investigations exploring the complex interplay among metabolic stress, inflammation, atrial remodeling, and thromboembolic risk in patients with acute ischemic stroke.

Tuğba Çetin

Department of Cardiology, Tekirdağ Çorlu State Hospital, Tekirdağ, Türkiye

Corresponding author:
Tuğba Çetin
✉ drtugbacetin@gmail.com

Received: July 05, 2026
Accepted: July 06, 2026

Cite this article as: Çetin T. Letter to the Editor: Stress Hyperglycemia Ratio is Associated with Intracardiac Thrombus in Acute Ischemic Stroke. *Turk Kardiyol Dern Ars.* 2026;54(6):534-535.

DOI: 10.5543/tkda.2026.79395

Copyright@Author(s)
Available online at archivestsc.com. Content of this journal is licensed under a Creative Commons Attribution – NonCommercial-NoDerivatives 4.0 International License.

Conflict of Interest: The author have no conflicts of interest to declare.

Funding: The author declared that this study received no financial support.

References

1. Cicek V, Erdem A, Kozan Çıkırıkçı EH, et al. Stress Hyperglycemia Ratio Is Associated with Intracardiac Thrombus in Acute Ischemic Stroke. *Turk Kardiyol Dern Ars*. 2026;54(5):395–402. [CrossRef]
2. Ömür SE, Zorlu Ç, Yılmaz M. Comparison of the Relationship Between Inflammatory Markers and Atrial Fibrillation Burden. *Anatol J Cardiol*. 2023;27(8):486–493. [CrossRef]
3. Roberts GW, Quinn SJ, Valentine N, et al. Relative Hyperglycemia, a Marker of Critical Illness: Introducing the Stress Hyperglycemia Ratio. *J Clin Endocrinol Metab*. 2015;100(12):4490–4497. [CrossRef]
4. Martignani C, Spadotto A, Carelli M, et al. Atrial Cardiomyopathy: A "Distinct Clinical Entity" for a Deeper Understanding of Atrial Fibrillation and Cardioembolic Stroke. *J Clin Med*. 2025;14(23):8363. [CrossRef]
5. Goette A, Lendeckel U. Atrial Cardiomyopathy: Pathophysiology and Clinical Consequences. *Cells*. 2021;10(10):2605. [CrossRef]