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[Mitigation](#) of cardiac [autonomic dysregulation](#) by [neuromodulation](#) technologies is emerging as a new therapeutic [modality](#) of [heart failure](#) (HF). This [progress](#) has necessitated the [identification](#) of a [biomarker](#) for the [quantification](#) of sympathovagal [balance](#), the potential target of 'neuromodulation' strategies. The currently available [autonomic nervous system](#) assessment parameters do not truly reflect the sympathovagal balance of the [ventricle](#). [Protein kinase A](#) (PKA) is an intracellular enzyme that plays a major role in the [pathophysiology](#) of functional and structural ventricular remodeling in HF. Interestingly, sympathetic and parasympathetic activations exert reciprocal [influence](#) on the [activity](#) of PKA ¹⁾.

Burks et al. reviewed clinical data on all patients undergoing [glioma surgery](#) performed by the senior author during a 4-year period at the University of [Oklahoma](#) Health Sciences Center. Forty patients were identified who underwent surgery for [butterfly gliomas](#). Each patient was designated as having undergone surgery either with or without the use of awake subcortical mapping and preservation of the [cingulum](#). Data recorded on these patients included the incidence of abulia/akinetic [mutism](#). In the context of the study findings, the authors conducted a detailed anatomical study of the cingulum and its role within the DMN using postmortem fiber tract dissections of 10 cerebral hemispheres and in vivo diffusion tractography of 10 healthy subjects.

Forty patients with butterfly gliomas were treated, 25 (62%) with standard surgical methods and 15 (38%) with awake subcortical mapping and preservation of the cingulum. One patient (1/15, 7%) experienced postoperative abulia following surgery with the cingulum-sparing technique. Greater than 90% resection was achieved in 13/15 (87%) of these patients.

This study presents evidence that anterior butterfly gliomas can be safely removed using a novel, attention-task based, awake brain surgery technique that focuses on preserving the anatomical connectivity of the cingulum and relevant aspects of the [cingulate gyrus](#) ²⁾.

Fekete M, Horvath A, Santa B, Tomisa G, Szollosi G, Ungvari Z, Fazekas-Pongor V, Major D, Tarantini S, Varga JT. COVID-19 vaccination coverage in patients with chronic obstructive pulmonary disease - A cross-sectional study in Hungary. Vaccine. 2022 Nov 18:S0264-410X(22)01415-3. doi: 10.1016/j.vaccine.2022.11.020. Epub ahead of print. PMID: 36424256.

¹⁾
Chakraborty P, Po SS, Yabluchanskiy A, Dasari TW. [Protein kinase A](#): A potential [marker](#) of

sympathovagal [imbalance](#) in [heart failure](#). Life Sci. 2023 Sep 2;122069. doi: 10.1016/j.lfs.2023.122069. Epub ahead of print. PMID: 37666387.

²⁾

Burks JD, Bonney PA, Conner AK, Glenn CA, Briggs RG, Battiste JD, McCoy T, O'Donoghue DL, Wu DH, Sughrue ME. A method for safely resecting anterior butterfly gliomas: the surgical anatomy of the default mode network and the relevance of its preservation. J Neurosurg. 2017 Jun;126(6):1795-1811. doi: 10.3171/2016.5.JNS153006. Epub 2016 Sep 16. PubMed PMID: 27636183.

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