



May 2023

More on an asymmetric life

I enjoy receiving CURRENT PSYCHIATRY each month and read Dr. Nasrallah's editorials with great interest, as there is often an interesting angle to the topic. However, I found your recent editorial ("The joys and rewards of an asymmetric life," CURRENT PSYCHIATRY, May 2023, p. 7-8,16, doi:10.12788/cp.0361) perplexing. You and I (and most male physicians) have certainly been privileged, but not everyone gets to lead an asymmetric life. For many of our patients, an unbalanced life is part and parcel of their mental illness.

Too often, families bear the burden of an individual's hyperfocused pursuits. I hope your wife has been able to pursue her occupation with the same zeal and commitment. We have all read biographies of driven individuals and, unfortunately, someone pays the price for another's success. For every Steve Jobs, there is a Lisa Jobs.

If we were surgeons, I would applaud your essay. However, we are psychiatrists. If anything, we balance out the reductionist forces in medicine. When every other physician claims a cure with medications or procedures, we look at all aspects of the patient's life to find the appropriate treatment. At least that's what we should be doing.

I was part of the first class of residents to work under the 80-hours-per-week restrictions. I was grateful for the extra time to rest, exercise, and spend time with my wife. The 80-hour restrictions improved resident wellness and had no impact on patient care. There are intangible benefits of diverting the mind from a chosen pursuit (such as creativity).

There is no doubt that becoming number 1 in any field requires a tremendous amount of determination, sacrifice, and effort. But not everyone gets to be first. Our society's single-minded focus on being the best has had a major impact on mental health, especially for children. I hope you can address that in a future editorial.

Sudhir Nagaraja, DO, MS
Fredericksburg, Virginia

Dr. Nasrallah responds

Thank you for your letter about my editorial. You obviously believe in leading a balanced life, and that's fine if you so choose. I described why I decided at an early age to lead an intensive, "purpose-driven life," which requires investing much more time than others do, to achieve my lofty goals and excel in my area of expertise (academic psychiatry). It is really a "calling," and those who score an extraordinary achievement (a moonshot) in their

life, including Olympic gold medalists, entrepreneurs, inventors, or Nobel laureates, must do exactly what I do. I am not urging anyone to do what I have chosen to do in my life. Everyone defines for themselves what constitutes the pursuit of happiness.

You mentioned my wife. Let me assert that she is highly successful as a mother and as a research psychologist. She is my extremely valuable life partner and very supportive of what I do. I am fortunate to have chosen well!

More on transient global amnesia

Your recent article on transient global amnesia (TGA) ("Transient global amnesia: Psychiatric precipitants, features, and comorbidities," CURRENT PSYCHIATRY, April 2023, p. 30-35,40, doi:10.12788/cp.0345) is an encouragement for psychiatrists to bring their skills to explore disorders often seen as the primary task of neurology. The article presents a woman with a history of trauma who received a severe emotional shock that triggered TGA. The discussion of a proposed treatment (lorazepam) brings a psychopharmacologic focus to TGA.

I witnessed TGA, experienced by my brother, while on a surf trip. After bodyboarding for about an hour in cold water, wearing a full wet suit and hood, he met me on the beach. He recognized me and knew my name but had no idea where we were, how we got there, or other events from earlier that morning. There was no stressor, just the usual surfing excitement. We went to a local emergency department, where the physical examination, usual laboratory tests, and neuroimaging were normal. After approximately 5 hours, he began to fully recall recent

Keep in touch!

letters@currentpsychiatry.com

OR

Comments & Controversies

CURRENT PSYCHIATRY
283-299 Market Street
2 Gateway Building, 4th Floor
Newark, NJ 07102

All letters are subject to editing.

events. Ten years later, there has been no recurrence. The only change in his surfing habits has been to avoid using a hood with neck coverage.

In 2022, Papadis et al¹ described a case of concurrent Takotsubo cardiomyopathy and TGA, noting that cardiovascular dysfunction and neurologic dysfunction may be provoked by an emotional or stressful situation. The interesting observations of capture myopathy from animal literature appear similar to human reactions to trauma.¹⁻³

Case reports of scopolamine intoxication have been linked to TGA. Severe memory disturbances, characteristics of dry mouth, blurred vision, and tachycardia were evident. Certain South American plant extracts popularly known as “Burundanga” have anticholinergic effects. Severe anterograde amnesia and submissiveness represent the 2 most notorious clinical signs of Burundanga intoxication.⁴

As one reviews single and groups of case studies, several things stand out. The hallmark of TGA is the sudden inability to make new memories, which resolves in a few hours. The brief and isolated dysfunction is what distinguishes this condition from most episodic disorders, but a clinician should not prognosticate too much without screening for ischemic or metabolic disturbance. Common associated precursors include Valsalva-associated activities, emotional stress with anxiety, acute pain, cold water immersion, static neck posture, and age older than 55.^{5,6}

Neuropsychiatric disorders involve the neuron and its connections. Major reflexes automate the processes of the “neurocardiac” axis. The vasovagal reflex (Barcroft/Edholm reflex), diving reflex, baroreceptor reflex, Cushing

reflex, and others depend upon the conversion of a mechanical stimulus to neurotransmission. The reflexes have sensors, afferent paths, a central processing, and efferent paths that lead to events or experiences. CNS processing is complex but the brainstem, amygdala, prefrontal cortex, and some cortical regions are involved. Neurocardiac reactions can come from pathologic events, including ischemia, metabolic disturbance, pain signals, or emotional effects within the axis.⁷⁻¹¹

Understanding neurocardiac reflexes may help our progress with challenging clinical conditions, such as chronic pain, trauma, and cognitive impairment. The broad use of vagus nerve stimulation is one indicator of the power of this focus.¹²⁻¹⁹ Lewis²⁰ suggested increased susceptibility to retrograde jugular venous flow could cause regional brain ischemia, resulting in TGA. The competency of jugular venous valves during the Valsalva maneuver could be assessed with Doppler ultrasound. Abnormalities could be managed, and results assessed.^{20,21} Vascular shunting from memory regions in the brain to essential neurocardiac control areas should be considered.

Cholinergic processes are active in the parasympathetic nervous system, sustained attention, working memory, executive functions, and mood. Increased central cholinergic activity may lead to depression. Scopolamine, in its therapeutic range, has antidepressant effects but in toxic doses is a dissociative agent.^{22,23} While cholinesterase inhibitors are used in Alzheimer disease, cholinergic agonists have yet to play a large role in general psychiatry or functional neurology.

TGA continues to provide a window into memory, functional disorders,

psychological defenses, and adaptive neurocardiac processes. Continued clinical care and research might include gradual adaptation to cold water immersion, caution with the Valsalva maneuver, cholinergic support, managing the trapped response, avoiding interference with normal jugular flow, and evaluation for jugular venous insufficiency.

Because a variety of medical procedures can trigger TGA, health care professionals in many fields need to understand this symptom complex.²⁴⁻²⁷ Thanks to the authors for raising the awareness of TGA for psychiatrists.

Mark Chandler, MD
Durham, North Carolina

References

- Papadis A, Svab S, Brugger N, et al. “Broken heart” and “broken brain”: which connection? *Cardiol Res.* 2022;13(1):65-70. doi:10.14740/cr1336
- Blumstein DT, Buckner J, Shah S, et al. The evolution of capture myopathy in hooved mammals: a model for human stress cardiomyopathy? *Evol Med Public Health.* 2015;2015(1):195-203. doi:10.1093/emph/eov015
- Seguel M, Paredes E, Pavés H, et al. Capture-induced stress cardiomyopathy in South American fur seal pups (*Arctophoca australis gracilis*). *Marine Mammal Science.* 2014;30(3): 1149-1157. <https://doi.org/10.1111/mms.12079>
- Ardila A, Moreno C. Scopolamine intoxication as a model of transient global amnesia. *Brain Cogn.* 1991;15(2):236-245. doi:10.1016/0278-2626(91)90028-7
- Bartsch T, Deuschl G. Transient global amnesia: functional anatomy and clinical implications. *Lancet Neurol.* 2010;9(2):205-214. doi:10.1016/S1474-4422(09)70344-8
- Spiegel DR, Smith J, Wade RR, et al. Transient global amnesia: current perspectives. *Neuropsychiatr Dis Treat.* 2017;13:2691-2703. doi:10.2147/NDT.S130710
- Yartsev A. Cardiac reflexes. August 15, 2020. Updated May 19, 2023. Accessed June 12, 2023. <https://derangedphysiology.com/main/cicm-primary-exam/required-reading/cardiovascular-system/Chapter%20491/cardiac-reflexes>
- Lemaitre F, Chowdhury T, Schaller B. The trigemino-cardiac reflex - a comparison with the diving reflex in humans. *Arch Med Sci.* 2015;11(2):419-426. doi:10.5114/aoms.2015.50974
- Lindholm P, Lundgren CE. The physiology and pathophysiology of human breath-hold diving. *J Appl Physiol* (1985). 2009;106(1):284-292. doi:10.1152/jappphysiol.90991.2008
- Tansley EA, Johnson CD. Recent advances in thermoregulation. *Adv Physiol Educ.* 2015;39(3): 139-148. doi:10.1152/advan.00126.2014
- Alboni P, Alboni M. Vasovagal syncope as a manifestation of an evolutionary selected trait. *J Atr Fibrillation.* 2014;7(2):1035. doi:10.4022/jafib.1035

12. Badran BW, Austelle CW. The future is noninvasive: a brief review of the evolution and clinical utility of vagus nerve stimulation. *Focus (Am Psychiatr Publ)*. 2022;20(1):3-7. doi:10.1176/appi.focus.20210023
13. Suarez-Roca H, Mamoun N, Sigurdson MI, et al. Baroreceptor modulation of the cardiovascular system, pain, consciousness, and cognition. *Compr Physiol*. 2021;11(2):1373-1423. doi:10.1002/cphy.c190038
14. Pinna T, Edwards DJ. A systematic review of associations between interoception, vagal tone, and emotional regulation: potential applications for mental health, wellbeing, psychological flexibility, and chronic conditions. *Front Psychol*. 2020;11:1792. doi:10.3389/fpsyg.2020.01792
15. Howland RH. Vagus nerve stimulation. *Curr Behav Neurosci Rep*. 2014 Jun;1(2):64-73. doi:10.1007/s40473-014-0010-5
16. Panneton WM, Gan Q. The mammalian diving response: inroads to its neural control. *Front Neurosci*. 2020;14:524. doi:10.3389/fnins.2020.00524
17. Khurana RK, Wu R. The cold face test: a non-baroreflex mediated test of cardiac vagal function. *Clin Auton Res*. 2006;16(3):202-207. doi:10.1007/s10286-006-0332-9
18. Montirosso R, Provenzi L, Tronick E, et al. Vagal tone as a biomarker of long-term memory for a stressful social event at 4 months. *Dev Psychobiol*. 2014;56(7):1564-1574. doi:10.1002/dev.21251
19. Hansen AL, Johnsen BH, Thayer JF. Vagal influence on working memory and attention. *Int J Psychophysiol*. 2003;48(3):263-274. doi:10.1016/s0167-8760(03)00073-4
20. Lewis SL. Aetiology of transient global amnesia. *Lancet*. 1998;352(9125):397-399. doi:10.1016/S0140-6736(98)01442-1
21. Han K, Chao AC, Chang FC, et al. Obstruction of venous drainage linked to transient global amnesia. *PLoS One*. 2015;10(7):e0132893. doi:10.1371/journal.pone.0132893
22. Picciotto MR, Higley MJ, Mineur YS. Acetylcholine as a neuromodulator: cholinergic signaling shapes nervous system function and behavior. *Neuron*. 2012;76(1):116-129. doi:10.1016/j.neuron.2012.08.036
23. Dulawa SC, Janowsky DS. Cholinergic regulation of mood: from basic and clinical studies to emerging therapeutics. *Mol Psychiatry*. 2019;24(5):694-709. doi:10.1038/s41380-018-0219-x
24. Grande LA, Loeser JD, Samii A. Recurrent transient global amnesia with intrathecal baclofen. *Anesth Analg*. 2008;106(4):1284-1287. doi:10.1213/ane.0b013e318165e1c6
25. Carrard J, Lambert AC, Genné D. Transient global amnesia following a whole-body cryotherapy session. *BMJ Case Rep*. 2017;2017:bcr2017221431. doi:10.1136/bcr-2017-221431
26. Jeong M, Kim WS, Kim AR, et al. Medical procedure-related transient global amnesia. *Eur Neurol*. 2018;80(1-2):42-49. doi:10.1159/000493163
27. Shah B, Hussain MW. Concussion causing transient global amnesia: further insights into pathophysiology? *Neurology*. 2020;95(20 Suppl 1):S16. doi:10.1212/01.wnl.0000720020.86134.9d

Disclosures

The authors report no financial relationships with any companies whose products are mentioned in their letters, or with manufacturers of competing products.

doi: 10.12788/cp.0380