

## Dyspnea in a Nonagenarian. Neurological Case Report

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### Introduction

Brain stem neurons monitor breathing. They are present bilaterally, and control and monitor the production of carbon dioxide (CO<sub>2</sub>) [1]. These neurons match metabolism to respiratory function, which in turn is controlled by the autonomic nervous system (ANS). Thus, normally, no thought is required to take a breath, the required neuronal discharges for normal breathing are generated spontaneously.

I report a 95-year-old man who has “to think to take a breath.” His breathing during sleep is presumably normal. But if he is awake and neglects to think about breathing or is distracted by other thoughts, hypoxia overwhelms him, evidenced by flashing lights in the peripheral visual fields, a marked increase in the amplitude of his senile tremor, painful spasm in leg muscles if standing, and sometimes loss of consciousness, leading to falls. His mental function is normal, as evidenced by the submission of this Case Report.

### Past Medical History

Parathyroidectomy 1950, first migraine attack 1952, benign paroxysmal positional vertigo 1955,

benign prostatic hypertrophy 2000, controlled hypertension 2022, herniorrhaphy 2008, trans arterial aortic valve replacement (TAVR) 2018, Demand pacemaker implanted 2018.

Chronic exerciser (42 marathons, 4 Ultramarathons). Continues to use a Concept 2 rowing machine (rows 6000 meters and 10,000 meters on alternative days). Lives at an altitude of 1,619 m. [2,3]; oxygen saturation ranges from 88% to 96%, Nonsmoker, drinks occasionally half a glass of wine. Onset of senile tremor 2020 [4]. Classical migrainous aura without accompanying headache 2023 [5].

The patient is almost entirely confined to his house, though he still drives for short distances. Because of the risk of falls, he

uses a walker at home and a cane outside the house. He has one physical therapy session per week.

### Conclusion

This case is unique because hypoxia disables the patient. Breathing exercises help control respiratory function, and biofeedback might be useful in therapy [6].

### Differential diagnosis

Transient ischemic attacks; migraine equivalents; Pulmonary dysfunction (X-rays of chest normal) [7].

The author declares no competing interests.

### References

1. Patrice G Guyenet, Douglas A Bayliss (2015) Neural Control of Breathing and CO<sub>2</sub> Homeostasis. *Neuron* 87: 946-961.
2. Olesen J (2008) The role of nitric oxide (NO) in migraine, tension-type headache, and cluster headache. *Pharmacol Ther* 120: 157-171. doi: 10.1016/j.pharmthera.2008.08.003 The role of nitric oxide (NO) in migraine, tension-type headache and cluster headache. *Pharmacol Ther*. 2008
3. Kiratikorn Vongvaivanich, Paweena Lertakyamane, Stephen D Silberstein, David W Dodick (2015) Late-life migraine accompaniments: A narrative review. *Cephalalgia* 35: 894-911.
4. Deuschl G, Petersen I, Lorenz D, Christensen K (2015) Tremor in the elderly: Essential and aging-related tremor. *Mov Disord* 30: 1327-1334.
5. Barber M, Pace A (2020) Exercise and Migraine Prevention: a Review of the Literature *Curr. Pain Headache Rep* 24: 39.
6. Fisher CM (1986) Late-life migraine accompaniments--further experience. *Stroke* 17: 1033-1042.
7. Lang PJ, Twentyman CT (1974) Learning to control heart rate; binary vs. analogue feedback. *Psychophysiology* 11: 616-629.

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