
Letter to the Editor

'A COMMON PHENOMENON IN PSYCHIATRY: YAWNING'

Dear Editor,

Yawning was first described in the psychiatric literature by Charcot (1888) as a complaint in a patient diagnosed with hysteria. In 1890 Gilles de la Tourette reported a patient with amenorrhea, epilepsy, and binasal hemianopsia that experienced yawning 480 times in an hour. Today, this case is thought to have the diagnosis of prolactinoma (Walusinski 2009). Inspired by an old case in the psychiatric literature this letter will focus briefly on the causes and occurrence of yawning.

Yawning is defined as an emotional, physiological stereotypical behavior that occurs to regulate the increase in brain blood flow, so as to provide specific brain cooling during homeostasis associated with wake/sleep rhythm fluctuations, eating, and sexual activity (Baenninger 1997). The hypothalamic paraventricular nucleus is the primary center of yawning control and it is where the oxytocin neurons located in parvocellular region of the paraventricular nucleus extend to the hippocampus, brain stem (locus coeruleus), and spinal region. The stimulation of nerves by dopamine agonists, excitatory amino acid (NMDA), histamine, and oxytocin triggers yawning behavior (Walusinski 2009). Yawning might occur as a side effect of antidepressants, opioids, benzodiazepines, and dopaminergic drugs. Cases of yawning due to imipramine, desipramine, clomipramine, fluoxetine, paroxetine, duloxetine, sertraline, escitalopram, and venlafaxine have been

reported, as has minimizing this side effect via dose adjustment (Nayak et al. 2011).

Many theories of yawning etiology have been posited and investigated. The findings of experimental studies on the respiratory, alertness (arousal), and thermoregulation hypotheses of yawning were inconclusive. Furthermore, it was reported that there is a relationship between yawning and social cognition (Guggisberg et al. 2011 Platek 2010). People begin to yawn when someone else in the environment yawns, and the contagiousness of yawning was interpreted in evolutionary terms by researchers as the most primitive form of social cognition—in other words, empathy (Senju 2010). A brain imaging study showed that mirror neuron activity plays an important role in empathy, and the researchers suggested that the finding indicates yawning behavior is a part of the process of empathy (Haker et al. 2013). It was also reported that in cases of continuous yawning pituitary and endocrine system disorders, and neurological diseases such as temporal lobe epilepsy or stroke should be included in the differential diagnosis (Gallup 2011).

In conclusion, the evolutionary and neurobiological roots underlying the emotional stereotypical behavior of yawning is frequently cited, but are not considered to be pivotal by clinicians. This phylogenetically old behavior might be the result of neurological diseases or endocrinopathies, or might have a therapeutic function, showing that empathy is re-arranged by the treatment process.

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