Cough syncope misinterpreted as epileptic seizure

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ABSTRACT – Cough synapses are rare but may be one of the cause of sudden loss of consciousness. We recorded under video-EEG monitoring a typical syncope triggered by voluntary coughing (video) and Valsava maneuver in a patient referred for the diagnosis of generalized tonic-clonic seizures. There were no signs of active epilepsy. The attacks were associated with overweight, obstructive sleep apnea and heavy consumption of cigarettes. [Published with video sequences]

Key words: cough syncope, tussive syncope

Using EEG-video monitoring, we recorded typical vasoplegic synapses triggered by voluntary coughing (see video sequence) and the Valsava maneuver, in a 33-year-old patient referred for the diagnosis of generalized tonic-clonic seizures with coughing. Epilepsy had been suspected because the attacks were impressive and sometimes the loss of consciousness was associated with urinary and/or fecal incontinence. However, the attacks were associated with obesity, which was ascribed to the treatment of manic-depressive disorder with neuroleptics, obstructive sleep apnea, and heavy consumption of cigarettes. There were actually no signs of epilepsy. Brain MRI was normal with no Arnold-Chiari malformation.

Epileptic seizures and syncope sometimes pose diagnostic challenges (Spanaki et al. 2006; Perrig and Jallon, 2008). Generalized tonic-clonic seizures can be confused with synapses because of the hypertonia and occasional jerks (Gelisse et al. 2007), but in syncope there is a brief period of unconsciousness with no post-ictal confusion. Synapses are rarely accompanied by incontinence. Cough syncope, also called tussive syncope, was first described by Charcot in 1876 under the name “vertige laryngé” (Gelisse and Genton, 1997). It occurs usually in moderately obese, middle-aged men with broncho-pulmonary disorders. Loss of consciousness follows a bout of prolonged coughing. Syncope is due to lowered cerebral perfusion pressure as a consequence of increased intrathoracic pressure (Valsalva mechanism), culminating in an acute decline in cardiac output, which impairs cerebral venous return. Another proposed mechanism is a decrease in cerebral blood flow as a consequence of elevated cerebrospinal fluid pressure during coughing.
Legend for video sequence
Voluntary coughing producing typical syncope. The doctor said: “Les pupilles sont dilatées” (There is pupillary dilatation). At the end, the doctor told the patient “Comment vous sentez-vous ?” (How are you?) The patient fully understood the doctor’s question. There was no post-ictal confusion. He answered: “mal” (bad).

References