

Conversion disorder: Not a malingering matter

Catherine Krasnik MD PhD¹, Christina Grant MD FRCPC²



A 12-year-old girl was seen by her family physician with a chief complaint of seizures. Over the past several weeks, she has suffered from attacks of bilateral arm jerking, followed by bilateral leg jerking. Often, her head shakes violently from side to side and her eyes are seen to roll back in her head. These spells are not accompanied by bladder or bowel incontinence, but often the patient bites her tongue and kicks over tables or strikes family members during an episode. These incidents typically follow episodes of emotional outburst and can wax and wane for 20 min to 30 min with varying intensity. She has no significant medical history and takes no medications. Her school performance is excellent. She is a competitive gymnast who spends 15 h per week training. On examination, her vitals signs are normal, without orthostatic hypotension, and her neurological evaluation is unremarkable. Medical investigations including glucose, electrolytes, a urine toxin screen and an EEG are all within normal limits.

As the spells continued, her parents tried vitamin supplements, homeopathic products and chiropractic sessions, without improvement. She was seen in consultation by a paediatrician who ordered a sleep-deprived EEG and an ECG, both of which were normal. Upon further questioning, she denies being stressed out, although she has an upcoming audition for Team Canada. There is a family history of anxiety disorders, and one of her best friends has a seizure disorder. She was referred to a psychologist.

One week following her first psychological evaluation, she had a much more intense spell just after finishing her routine at a gymnastic competition. She warned of an impending seizure, sat down on the bench and put her head down just before losing consciousness. She was brought by ambulance to the emergency department, evaluated by the emergentologist and the attending neurologist who excluded organic causes. She was admitted under the care of a child psychiatrist. An event was captured by video EEG and interpreted as a pseudoseizure. A serum prolactin level drawn within 30 min of the 'seizure' was within normal limits. The final diagnosis was a conversion disorder (CD).

LEARNING POINTS

- The incidence of CD in the paediatric population was estimated at 2.3 to 4.2/100,000, according to an Australian surveillance study.
- Despite the enormous health burden associated with CD presentations, there are currently no North American epidemiological data and no clinical guidelines to inform best practices.
- CD most frequently presents with neurological symptoms, such as atypical psychogenic nonepileptic seizures (eg, incontinence is rare), and other abnormal involuntary movements, including weakness/paralysis/tremor of a limb or the entire body. Presentation can also include any motor or sensory symptom(s).
- Affected patients have a long period between onset of symptoms and a confirmed diagnosis of CD and often undergo unnecessary extensive investigations and procedures.
- CD should not be a diagnosis of exclusion. Early identification can ensure prompt treatment and improve outcomes (based on adult population studies).
- An elevated prolactin level 30 min after the event can occur with partial seizures, generalized seizures or syncope but not typically with pseudoseizures.
- Studies focusing on misdiagnosis rates of CD have shown improvement from approximately 29% in the 1950s to 17% in the 1960s and have been stable at around 0.4% to 4% for every decade since then.
- When compared with misdiagnosis rates for other disorders in neurology and psychiatry, such as epilepsy, CD does well with misdiagnosis rates of 0.4% to 4% compared to those for epilepsy, which consistently range from 23% to 30%.
- The CPSP study on CD in the paediatric population is the first epidemiological study of its kind in North America with the goal of informing clinical policy and guidelines on strategies for effective management. In the first three months of surveillance, 36 cases have been reported.

RECOMMENDED READING

- American Psychiatric Association. *Diagnosis and statistical manual of mental disorders*, 4th ed. Washington, DC: APA, 1994.
- Kozłowska K, Nunn KP, Rose D et al. Conversion disorder in Australian pediatric practice. *J Am Acad Child Adolesc Psychiatry* 2007;46(1):68-75.
- Krasnik CE, Findlay S, Grant C. Conversion disorders presenting to an adolescent medicine team: Clinical features and treatment outcomes. *Society for Adolescent Medicine (April 2010) (PILOT study; manuscript in preparation)*.
- Pehlivan Türk B, Unal F. Conversion disorder in children and adolescents. A four-year follow-up study. *J Psychosom Res* 2002;52(4):187-91.
- Stone J, Smyth R, Carson A et al. Systemic review of misdiagnosis of conversion symptoms and 'hysteria'. *BMJ* 2005;331(7523):989.
- Stonnington CM, Barry JJ, Fisher RS. Conversion disorder. *Am J Psychiatry* 2006;163(9):1510-7.

The Canadian Paediatric Surveillance Program (CPSP) is a joint project of the Canadian Paediatric Society and the Public Health Agency of Canada, which undertakes the surveillance of rare diseases and conditions in children and youth. For more information, visit our website at www.cps.ca/cpsp.

¹Department of Psychiatry and Behavioural Neurosciences; ²Division of Adolescent Medicine, Department of Paediatrics, McMaster University, Hamilton, Ontario

Correspondence: Canadian Paediatric Surveillance Program, 2305 St Laurent Boulevard, Ottawa, Ontario K1G 4J8. Telephone 613-526-9397 ext 239, fax 613-526-3332, e-mail cpsp@cps.ca

Accepted for publication March 21, 2012