Unravelling an acute flaccid paralysis event

A 10-year-old girl experienced three days of nonbloody diarrhea. One week later, she had increased pain, tingling and weakness in her legs, causing her to refuse to walk. Because knee jerk reflexes were absent, she was admitted to the hospital. She rapidly developed respiratory failure, was intubated, ventilated and treated with high-dose intravenous immunoglobulins. Her workup showed normal creatine phosphokinase, cerebral spinal fluid with increased proteins but no pleocytosis, and negative bacterial and viral cultures, including stool cultures. Serology, indicative of a recent infection with *Campylobacter jejuni*, and an electromyogram, indicative of motor axonal neuropathy, confirmed a diagnosis of Guillain-Barré syndrome (GBS). The treating paediatrician reported the child on the monthly CPSP check-off form as a case of acute flaccid paralysis (AFP).

LEARNING POINTS

- GBS is the most frequent cause of AFP, and accounted for 76.9% of the 2001 CPSP-confirmed AFP cases.
- *Campylobacter jejuni* is the single most identifiable antecedent pathogen associated with GBS.
- *Campylobacter* species is an important cause of diarrheal illness, causing 5% to 14% of diarrhea worldwide. The disease is reportable to public health authorities in all provinces and territories.
- In developed countries such as Canada, children younger than five years of age and young adults have the highest incidence of infection with *Campylobacter* species.
- Stool cultures for the isolation of poliovirus and *Campylobacter* species play an important role in the surveillance of AFP by honouring Canada's commitment to the documentation of global polio eradication, and by identifying the infectious agent.
- Twenty-five per cent of stool cultures obtained at the onset of neurological symptoms in GBS patients are positive for C *jejuni*; the CPSP, however, indicates that this investigation is rarely done.
- In 2001, stool viral cultures, including those for poliovirus, were done in only 48% of cases of AFP reported by the CPSP, well below the 80% World Health Organization target of adequate stool investigations.

The Canadian Paediatric Surveillance Program (CPSP) is a joint project of the Canadian Paediatric Society and Health Canada's Centre for Infectious Disease Prevention and Control that undertakes the surveillance of rare diseases and conditions in children. For more information visit <www.cps.ca/english/cpsp> or <www.cps.ca/francais/pcsp>.