CASE REPORT

Abdominal pain as a presenting symptom of the Guillain-Barré syndrome

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SUMMARY

Guillain-Barré syndrome (acute inflammatory polyneuropathy) is a rare disorder with an incidence of one to two per 100 000 per year (Kennedy *et al.*, 1978) but it is the commonest cause of acute muscle weakness in patients under 40 years of age. The clinical diagnosis is made by finding a symmetrical motor and sensory peripheral neuropathy, commonly with cranial nerve involvement. Mechanical ventilation is required in 14% of patients because of paralysis of the respiratory muscles. Early treatment with plasma exchange leads to more rapid and complete recovery of neurological function, and reduces the time spent on the ventilator. Early diagnosis and referral for plasma exchange is therefore very important.

The present authors report a case in which abdominal pain was the patient's initial symptom and her main complaint.

CASE REPORT

A 19-year-old Irish chambermaid presented to the accident and emergency (A&E) department with a 3-week history of stabbing pains in the right side of her abdomen. The pains lasted for minutes or several hours, occurred once every 2 days and sometimes woke her from sleep. The pains were relieved by moving about. There were no associated gastrointestinal or urogenital symptoms. Three days prior to admission she noticed similar shooting pains in both legs and some weakness when walking upstairs. On the day of admission, she fell to the floor when she tried to get out of bed.

In the A&E department, her legs felt weak and painful but the abdominal pain was the symptom which she emphasized (in spite of her weakness). She was not aware of any recent infection or drug ingestion.

On examination, she looked weak, tired and pale. Her chest was clear but the lower half of her abdomen was tender to deep palpation, without guarding. Pelvic examination was normal. Forced Vital Capacity was reduced at 2.5 l. In the nervous system, there was no impairment of conscious level or higher mental function. Examination of the cranial nerves was normal apart from bilateral MRC grade 4/5 weakness of sternocleidomastoid and trapezius muscles. In the arms, there was global weakness, grade 4/5, and hypotonia; there was more severe weakness in both legs, grade 3/5 throughout. Tendon reflexes were absent in the legs but with reinforcement there was patchy preservation in the arms. Plantar responses were equivocal. Both proprioception and vibration sense were normal, as well as pinprick and light touch. The patient was not able to walk unaided.

A diagnosis of Guillain-Barré syndrome was made. Full blood count, serum electrolytes and calcium, ECG and chest X-ray were normal. Urinary porphyrin screen was negative. On the day after admission, lumbar puncture revealed normal cerebrospinal fluid. Electromyography showed slowed conduction and the presence of F waves in the right extensor digitorum brevis muscle.

On the following day, she developed acute difficulty with breathing, associated with an unrecordable FVC. She required mechanical ventilation for 4 days. During this time, she received five plasma exchange treatments using a Haemonetics 30 plasmapheresis machine. She suffered no further abdominal pains. Nine days after discharge from the intensive care unit, she had regained full muscle power in all muscle groups and was able to climb stairs unaided. She was discharged 19 days after admission and was normal at follow up one month later.

DISCUSSION

The first report of acute ascending paralysis was by Landry in 1859. In 1916, Guillain, Barré & Strohl described the cerebrospinal fluid findings in two young soldiers with acute ascending paralysis.

A recent prospective study has shown that 38% of patients have symptoms of respiratory infections and 17% of gastrointestinal infections in the month preceding onset of the Guillain-Barré syndrome (Winer *et al.*, 1988). Figures collected from various studies show that 46% of cases present with paraesthesiae and numbness usually in the legs, 32% with motor symptoms and 21% with both (Hughes & Winer, 1984). In a prospective study of 29 consecutive cases of Guillain-Barré syndrome, 55% had a characteristic pain early in the illness, described as similar to the muscular discomfort following exercise (Ropper & Shahani, 1984). The anterior and posterior aspects of the thighs, buttocks and low back were most frequently affected, and pain was often worse at night. Abdominal pain is a common complaint in the A&E department but has not previously been reported in the Guillain-Barré syndrome. Whether this patient's pain was related to sensory nerve and root demyelination, or to gastrointestinal autonomic dysfunction is uncertain, but there were no associated gastrointestinal symptoms.

The diagnosis of Guillain-Barré syndrome is made clinically. There are signs of demyelination in motor nerves and roots in 98% of patients, a severe flaccid tetraparesis being the commonest finding. In 65% of cases, there are signs of sensory involvement. The signs are not always symmetrical, but tendon reflexes are invariably lost. In 52% of patients, the cranial nerves are involved, bilateral lower motor neurone facial palsy being a characteristic finding. Ventilation is required in 14% of cases for respiratory failure which may develop rapidly, as illustrated by this case. To avoid complications ventilation should be instituted electively when the FVC drops to 1; respiratory failure should not be allowed to develop (Ropper & Kehne, 1985). Autonomic dysfunction is also seen in the disease.

There are no diagnostic tests for Guillain-Barré syndrome, but it may be associated with raised cerebrospinal fluid protein concentration with a normal cell count and electromyography may show evidence of demyelination and sometimes of axonal damage.

Without plasma exchange treatment 60% of patients recover in one year, 10% are permanently disabled and 20% are unable to return to manual work: the mortality is 5% (Loffel *et al.*, 1977). The largest control trial of plasma exchange treatment in the Guillain-Barré syndrome was published in 1985 (Guillain-Barré syndrome Study Group, 1985). A study of this size is unlikely to ever be repeated so its findings are accepted as defining management of the disease in the future. Results showed that plasma exchange leads to more rapid and complete resolution of neurological signs, and reduces the time spent on a ventilator. Although not effective in all patients it was particularly beneficial in those who received it within one week of onset of symptoms and in those who required mechanical ventilation after entry into the study.

It is, therefore, important to diagnose Guillain-Barré syndrome early, and the authors draw attention to abdominal pain being a presenting symptom. Once diagnosed it is important to be aware of the possibility of respiratory failure and to refer the patient for plasma exchange treatment without delay.

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