

Metameric Motor Paresis Following Abdominal Herpes Zoster

Jesús Molinero, MD; Eduardo Nagore, MD; L. Obón, MD; F.J. Miquel, MD; Adolfo Aliaga, PhD

Motor neuropathy is an uncommon complication that may follow an outbreak of herpes zoster (HZ). About half of the reported cases have involved the cranial nerves, typically the facial nerve. The remaining cases have affected the nerves of the extremities. Interestingly, motor weakness of the thoracic segments is strikingly rare, even though this is where HZ most frequently occurs. The dermatologic literature reports only exceptions to this occurrence. We report a new case of motor paresis following HZ infection in an abdominal location, where this complication can be easily misdiagnosed as abdominal herniation.

Motor nerve involvement occurs in only about 5% of patients with herpes zoster (HZ), especially in older adult patients.¹⁻³ Most cases resolve spontaneously in less than a year. Occasionally, internal organs with a muscular wall may be involved, manifesting clinically as gastroparesis, intestinal pseudo-obstruction, or urinary retention. It should be stressed, therefore, that this complication be suspected when a patient develops signs and symptoms of motor dysfunction (including visceral pictures) that coincide with or follow an HZ eruption.

Case Report

A 64-year-old man presented with a medical history of type 2 diabetes mellitus, chronic obstructive pulmonary disease, and umbilical hernia that was to be treated surgically in a few months. He was seeking dermatologic consultation for a hemilateral cutaneous eruption on the right side of the abdomen following a T10 dermatomal distribution that lasted for one day. It was preceded by local tenderness during the previous week. Results of a physical examination revealed groups of small vesicles on erythematous bases, with a bandlike distribution on the referred area. The patient was diagnosed with HZ and treated with acyclovir 800 mg 5 times daily for one week.



Figure 1. Distention of the right T10 segment of the abdominal wall. Note the residual herpetic lesions.

Two weeks later, the patient complained of progressive distention in the area previously affected by the HZ outbreak. On examination, residual crusted herpetic lesions were observed over the localized abdominal distention (Figure 1). Spontaneous pain or tenderness on palpation were absent, and sensation was absolutely preserved. Gastrointestinal and nephrourologic signs and symptoms were not present. Valsalva's maneuver resulted in an accentuation of the distended zone. Results of a computed tomography abdominal scan showed the only pathologic finding to be a small herniation of the mesenteric fat on the midline, without intestinal component, corresponding to the previously mentioned umbilical hernia. At that point, the diagnosis of metameric motor paresis secondary to HZ was confirmed. The patient was followed up on a monthly basis without any pharmacologic treatment. At the end of 3 months, the abdominal distention had completely resolved, and the patient fully recovered the motor function of the abdominal wall musculature (Figure 2).

Comment

Of the relatively wide spectrum of complications that can follow an HZ outbreak (Table), motor

From the Department of Dermatology, Hospital General Universitario, Valencia, Spain.
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Figure 2. After 3 months' follow-up, the clinical picture has completely resolved, with full recovery of motor function.

weakness is one of the least frequent, occurring in only about 5% of reported cases, usually in middle-aged or older adult patients.¹⁻³ Approximately 50% of the motor neuropathies following HZ involve the cranial nerves, typically the facial nerve. Most of the remaining cases affect the extremities. Generally, but not always, motor involvement occurs in the same metamere as the previous HZ eruption. Remarkably, thoracic motor nerve involvement is extremely rare, though the thoracic dermatomes are the most common location for HZ eruptions.³ The first case of motor weakness following HZ was reported in 1866. The patient had a partial motor palsy of the upper limb after a zoster outbreak involving the dermatomes dependent from the brachial plexus.⁴ There were subsequent occasional cases of postherpetic motor neuropathy involving the diaphragm, gastrointestinal tract (giving rise to clinical pictures of gastroparesis and even intestinal pseudo-occlusion), bladder, and abdominal muscles.⁵⁻¹⁰ Likewise, anogenital HZ may become complicated by disturbances of micturition and defecation.¹¹

From a neurologic point of view, postherpetic weakness accounts for less than 3% of all motor defects.³ It has a good prognosis, however. Complete recovery has been reported to occur in less than a year in 55% to 75% of cases.^{3,12} It is interesting to note that the intensity of the paresis and the chances for complete recovery are not directly correlated.³

In conclusion, dermatologists and neurologists, as well as general practitioners and surgeons, should be aware of this complication of HZ. This will help avoid unnecessary laboratory examinations, including sonography and computed tomography, in patients with a self-limiting condition requiring only clinical follow-up.

Complications of Herpes Zoster

- Postherpetic neuralgia
- Trigeminal nerve zoster
- Herpes zoster oticus
- Ramsay Hunt syndrome
- Motor neuropathies
- Sarcoidal granulomas
- Encephalitis or meningoencephalitis
- Acute retinal necrosis syndrome
- Guillain-Barré syndrome
- Transverse myelitis

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