

Segmental zoster abdominal paresis mimicking an abdominal hernia

A case report and literature review

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Abstract

Rationale: Herpes zoster infection typically involves the posterior root ganglia and most of the symptoms are sensory. Motor involvement can occur in the same distribution but is relatively uncommon. Segmental zoster paresis is a rare motor complication of Herpes zoster, mimicking an abdominal hernia, but it needs no surgery different from the real abdominal wall hernia.

Patient Concerns: We present a case of a 58-year-old man with an abdominal protrusion and characteristic herpes zoster rash.

Diagnoses: Initially, the surgeon regarded it as an abdominal hernia, while ultrasonography excluded the abdominal wall defect, and then the dermatologist diagnosed it as segmental herpes zoster abdominal paralysis.

Interventions: He received a treatment with oral acyclovir, mecobalamin, and vitamin B1.

Outcomes: The abdominal wall bulge disappeared after 2 months, avoiding unnecessary surgery.

Lessons: Segmental zoster abdominal paresis, mimicking an abdominal hernia needs no surgery.

Abbreviation: CT = computed tomography.

Keywords: abdominal pseudohernia, herpes zoster, segmental zoster paresis

1. Introduction

Herpes zoster is a neurological syndrome caused by the activation of varicella-zoster virus (VZV) in the dorsal-root ganglia. The sensory abnormality is a predominant symptom of herpes zoster virus infection, whereas, motor neuropathy can also result from the infection, but it is uncommon.^[1] Segmental zoster abdominal paresis is one of the rare motor complications, the incidence was about 0.7%,^[2] mimicking an abdominal hernia. But different from the real abdominal wall hernia, it needs no surgery. Here, we report a case with an abdominal bulge due to Herpes zoster, who was successfully treated with oral drugs.

2. Case presentation

A 58-year-old male presented to our hospital with 2 weeks' history of rash and a week history of the protrusion in the right

abdominal wall with no pain. He had no history of diabetes mellitus or surgery. Physical examination revealed a healed herpetic skin rash and a 20 × 10 cm marked bulge on the right side of his abdomen in the area innervated by the 9th to 11th thoracic nerves (Fig. 1 A, B). The bulge became more pronounced with increased abdominal pressure. Limb activity and muscle strength are normal. Initially, a surgeon from the Department of abdominal wall surgery suspected it as an abdominal hernia, while ultrasonography revealed no the abdominal wall defect or mass, then a dermatologist diagnosed it as segmental herpes zoster abdominal paralysis which is a motor complication of Herpes zoster, mimicking an abdominal hernia. He was treated with oral acyclovir (800 mg 5 times daily for 7 days), mecobalamin (500 mg 3 times daily for 2 months), and vitamin B1 (20 mg 3 times daily for 2 months). The abdominal bulge had remitted completely after 2 months of treatment (Fig. 1 C).

3. Discussion

Herpes zoster usually occurs in elderly patients and involves sensory neurons, result in pain and paresthesia. The incidence of segmental zoster abdominal paresis mimicking an abdominal hernia is relatively rare.^[3] The first case of motor weakness following herpes zoster was reported in 1886 by Broadbent.^[4] There is no uniform nomenclature at present, and it is reported as zoster pseudohernia or zoster lumbar hernia in some medical literature.^[5] We believe that the term of segmental zoster abdominal paresis is more accurate. By December 2018, we summarized the available 24 cases reported previously by searching the PubMed database. The age of the patients was 45 to 84 years old, an average age was 67.8 years, and male to female ratio is 7:1. Segmental zoster abdominal paresis occurred 1 to 6 weeks after the appearance of the rash, with an average of 2.9 weeks. T11 is the predominantly affected dermatome followed by T12 and T10.^[6] Some patients are accompanied

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Figure 1. A: Dark red pigmentation can be seen on the right side of his abdomen in the area innervated by the 9th to 11th thoracic nerves. B: A 20 × 10 cm marked bulge on the right side of his abdomen. C: The abdominal bulge almost completely relieved after 2 months of treatment.

by visceral nerve involvement, such as urinary and gastrointestinal system, resulting urinary retention, or constipation.^[3,7] Segmental zoster abdominal paresis must be distinguished from real abdominal wall hernia. Abdominal wall hernia is mainly treated by surgery, while segmental zoster abdominal paresis needs no surgery. Ultrasonography or computed tomography (CT) revealed no the abdominal wall defect in such cases, but thin external and internal abdominal oblique and transverse muscles can be shown by CT.^[8] Electromyographic testing revealed derivational changes in the affected dermatomes.^[9] It is reported in the literature that about 80% of patients recovered completely within 1 year, and the average period of regression is 4.9 months. But some patients are permanently unable to recover.^[6,10] It was reported that paravertebral block with a mixture of 0.5% lidocaine 3 mL and triamcinolone 40 mg may be an effective option for treatment of pain, constipation, and abdominal segmental hernia following herpes zoster. The abdominal pain disappeared 1 day after the procedure, the abdominal protrusion and constipation were resolved 5 days after the intervention.^[9]

In conclusion, we presented an extremely rare case of segmental zoster abdominal paresis, mimicking an abdominal hernia. As our population ages, the incidence of segmental zoster abdominal paresis may be expected to increase. This rare complication of herpes zoster has a good prognosis. Clinicians, especially surgeon and dermatologist should be aware of this entity in order to provide proper treatments. Nutritional nerve and antiviral treatment are effective, when the visceral nerve is involved, paravertebral block with steroid plus local anesthetic treatment, may be an effective option.

4. Patient consent

Written informed consent was obtained from the patient for publication of clinical data, including all images in this case report.

Author contributions

Conceptualization: Yan-Hua Yu

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