CASE REPORT

Postherpetic pseudohernia: delayed onset of paresis of abdominal muscles due to herpes zoster causing an ipsilateral abdominal bulge

Shunsuke Ohno,¹ Yasuhiro Togawa,² Tsuyoshi Chiku,² Wataru Sano²

¹Kamitsuga Sogo Byoin, Kanuma, Japan

²Department of Surgery, Kamitsuga Sogo Byoin, Kanuma, Japan

Correspondence to

Dr Shunsuke Ohno, eco_eco_balus@yahoo.co.jp

Accepted 11 May 2016

SUMMARY

Postherpetic pseudohernia causes an abdominal bulge as well as an abdominal wall herniation. This disease is one of the neurological complications of herpes zoster and essentially consists of paresis of ipsilateral abdominal muscles. Postherpetic pseudohernia may be mistaken for abdominal wall herniation because it is not well known. We describe two cases presenting an abdominal bulge. The ipsilateral abdominal bulge appeared after recovery from abdominal zoster. Abdominal CT showed no evidence of a herniation or mass. We diagnosed a postherpetic pseudohernia. One of the patients recovered spontaneously 4 months after the onset, and the other partially recovered after 2 months. This disease can be expected to disappear spontaneously, unlike abdominal herniation requiring surgery. It has been reported that 79.3% of patients eventually recovered spontaneously. For surgeons and general practitioners, it is beneficial to keep this disease in mind when examining a patient presenting an abdominal bulge.

BACKGROUND

Postherpetic pseudohernia causes an abdominal bulge. This is one of the neurological postherpetic complications, and shows a clinical picture similar to abdominal wall herniation.

When general practitioners examine a patient presenting an abdominal bulge, they may misdiagnose postherpetic pseudohernia as abdominal wall herniation. So there are a certain number of postherpetic pseudohernia cases that are referred to surgeons by general practitioners or other departments as herniations. The disease is not well known by surgeons, so they may not be able to determine the cause of the abdominal bulge. If they are aware of the disease, however, they can diagnose a postherpetic pseudohernia easily.

We describe two cases of postherpetic pseudohernia and report the characteristics of the disease.

CASE PRESENTATION

Case 1: A 60-year-old woman presented to us with a painless right abdominal bulge. She had noticed it 5 days prior, and found that the condition persisted. She did not report of abdominal muscle weakness and had no other symptoms. Eleven days prior, she had visited a general practitioner, with a painful right abdominal rash, which had been diagnosed as herpes zoster. After she received vidarabine ointment, the rash regressed. She had no surgical history.

On physical examination, we noted that the right abdominal bulge in the standing position receded in the recumbent position. We could not detect any hernial orifice. Dried brown rashes were observed in the right T10 dermatomes.

Case 2: A 69-year-old woman presented to us with a 7-week history of a painless bulge of the right lower quadrant of the abdomen. She did not report of abdominal muscle weakness and had no other symptoms. Eight weeks prior, she had visited the dermatology department of our hospital, with burning pain of the right inguinal region. She had been diagnosed with herpes zoster and had been prescribed oral famciclovir. She recovered from herpes zoster a week after the onset. She had neither medical nor surgical history.

On physical examination, we noted that the bulge in the abdomen's right lower quadrant in the standing position ([figure 1](#)) receded in the recumbent position. We could not detect any hernial orifice. Dried brown rashes were observed in the right L1 dermatomes.

INVESTIGATIONS

Case 1: There were no abnormalities in the laboratory data. CT of the abdomen revealed neither an abdominal wall herniation nor a mass ([video 1](#)). We diagnosed the patient as having a postherpetic pseudohernia.

Case 2: There were no abnormalities in the laboratory data. CT of the abdomen revealed neither an abdominal wall herniation nor a mass ([video 2](#)). We diagnosed the patient as having a postherpetic pseudohernia.

Figure 1 Case 2: a 7-week history of a painless bulge in the right lower quadrant of the abdomen, in the standing position.

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To cite: Ohno S, Togawa Y, Chiku T, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-215377

Video 1 Abdominal CT image of case 1.

DIFFERENTIAL DIAGNOSIS

Generally speaking, the causes of an abdominal bulge are an abdominal wall herniation and intra-abdominal or subcutaneous mass. Physical examination and CT of the abdomen reveal these causes but a problem exists when there is no evidence of an abdominal wall herniation or mass. Knowledge that paresis of the abdominal muscles due to herpes zoster can also cause an ipsilateral abdominal bulge is important.

TREATMENT

Unlike abdominal herniation, postherpetic pseudohernias typically recover spontaneously. We did not provide treatment because the condition did not impair our patient's quality of life.

OUTCOME AND FOLLOW-UP

Case 1: Four months after the onset, the bulge had completely resolved spontaneously. We stopped patient follow-up.

Case 2: Two months after the onset, the bulge had partially regressed spontaneously. We continued follow-up of the patient.

DISCUSSION

Postherpetic pseudohernia is one of the neurological complications of herpes zoster and causes an ipsilateral abdominal bulge. This complication shows a clinical picture similar to an abdominal herniation in that it exhibits an abdominal bulge, but it is completely different in terms of course and treatment.

Video 2 Abdominal CT image of case 2.

This disease is essentially thought to be abdominal muscle paresis caused by the spread of varicella-zoster virus to spinal anterior horn cells and ventral roots.¹ The clinical picture of motor deficit is different depending on the site of infection. Abdominal zoster can cause an abdominal bulge, cervical zoster can cause arm weakness and lumbosacral zoster can cause bladder and bowel dysfunction. It is important to check for a recent history of herpes zoster in the diagnosis of postherpetic pseudohernia. Although abdominal CT and MRI may show no abnormality, electromyography (EMG) may show denervation change. A history of herpes zoster without evidence of a herniation in the abdominal CT lead to our diagnosis of a postherpetic pseudohernia.

Considering its invasiveness, we judged EMG to be an excessive examination for our patients. EMG is certainly useful to reveal neurological deficit. However, when we carry out invasive examination in clinical practice, we must carefully take into account the burden on the patient. Clinicians who are aware of this disease can diagnose an ipsilateral abdominal bulge as postherpetic pseudohernia by physical examination, and by identifying a recent history of herpes zoster. Of course, it is necessary to make sure that there is no evidence of a herniation, using abdominal CT.

The prevalence of abdominal muscle paresis due to herpes zoster is estimated at 0.17%.² The number of reported cases of postherpetic abdominal paresis is small. Chernev and Dado³ described a literature search of PubMed and Google—as of 2013—identifying 35 articles including 36 individual cases. Postherpetic pseudohernia can be expected to recover spontaneously, unlike abdominal wall herniation requiring surgery. Prognosis of postherpetic pseudohernia seems to be good. It has been reported that 79.3% of patients eventually recovered, with a mean recovery period of 4.9 months.³ Patients with motor deficit due to herpes zoster including not only the abdominal wall but also other parts of the body recovered spontaneously within 1 year of onset.⁴ Our patient in case 1 also recovered after 4 months and case 2 partially recovered after 2 months.

Although this disease is not well known, since herpes zoster is a common disease there appears to be a large number of patients with pseudohernia. For surgeons and general practitioners, it is beneficial to keep this disease in mind when examining a patient presenting an abdominal bulge.

Learning points

- ▶ Postherpetic pseudohernia, a neurological complication of herpes zoster, shows a clinical picture similar to abdominal wall herniation in that it exhibits an abdominal bulge. This disease essentially causes paresis of ipsilateral abdominal muscles.
- ▶ Prognosis of postherpetic pseudohernia seems to be good, with a spontaneous recovery in about 80% of patients. The disease itself does not impair quality of life and has no neurological complications.
- ▶ By identifying a history of herpes zoster, the diagnosis of postherpetic pseudohernia is not difficult for doctors who are aware of this disease. Surgeons and general practitioners would do well to keep this disease in mind when they examine a patient presenting an abdominal bulge.

Contributors YT initiated the design of the work and SO helped with implementation. SO conducted data collection and drafted the article. YT, TC and VS conducted critical revision of the article. All the authors approved the final manuscript.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Hung CT, Wang WM. Postherpetic pseudohernia. *CMAJ* 2012;184:E202.
- 2 Barroso FA. [Abdominal distension due to herpes zoster]. *Medicina (B Aires)* 2002;62:53–4.
- 3 Chernev I, Dado D. Segmental zoster abdominal paresis(zoster pseudohernia):a review of the literature. *PM R* 2013;5:786–90.
- 4 Akiyama N. Herpes zoster infection complicated by motor paralysis. *J Dermatol* 2000;27:252–7.

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