Peer review file

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Reviewer A

I think the unique part of this article is to highlight that the herpes zoster with C8 distribution, can have rash eruption lingering from the wrist, to forearm, and to the back. This explains that not all the scapular pain is stemmed from cervical radiculopathy, herpes zoster is one of the differential diagnosis that should be kept in mind. However, I have the following recommendations:

Comment 1: The article needs major revision to correct the grammar and syntax. I would suggest having native English speakers to proofread the entire article. There are also several misspellings.

Reply 1: We have modified our text as advised.

Changes in the text:

Title: Simultaneous herpes zoster rash in the upper extremity and interscapular region that resembles the innervation zone of the dorsal ramus of the cervical nerve root: A case report

Abstract lines 2-3: commonly seen prior to the onset of pain of the upper extremity; however,

>> commonly seen before the onset of pain in the upper extremities; however,

Abstract lines 3-6: We report a case of herpes zoster with simultaneous skin rash in both the upper extremity and interscapular region, which corresponds to the painful scapular region in case of C8 cervical radiculopathy.

>>The aim of this report is to present a case of herpes zoster with simultaneous skin rash in both the

upper extremity and interscapular region, corresponding to pain in the scapular region in a case of C8 cervical radiculopathy.

Abstract lines 8-9: She was diagnosed with herpes zoster and was prescribed amenamevir as oral treatment with vidarabine ointment.

>> She was diagnosed as having herpes zoster and was prescribed amenamevir as oral treatment along with vidarabine ointment.

Abstract lines 9-10: she still had mild causalgia on her III–V fingers and needed oral treatment with pregabalin.

>> she still had mild causalgia on her III–V fingers and required oral pregabalin treatment.

Abstract lines 11-12: this is the first case report of a herpes zoster rash in the upper extremity and intrascapular region simultaneously. We speculate that

>> this is the first report of a herpes zoster rash in the upper extremity and intrascapular region. It can be speculated that

Abstract line 14: correspond>>corresponds

Abstract line 15: in case of cervical radiculopathy>> in the case of cervical radiculopathy

Abstract lines 16-17: This phenomenon implies the mechanism of scapular pain is related to cervical radiculopathy. Further case reports are needed to confirm this.

>> This phenomenon implies that the mechanism of scapular pain is related to that of cervical radiculopathy. However, further case reports are needed to confirm these findings.

Page 1, lines 2-8: Cervical radiculopathy is caused by a compression of the cervical nerve root by substance from a herniated intervertebral disc or arthritic bone spur in the cervical foramen by degenerative alteration. It leads to radicular pain, sensational disturbance, and motor disfunction along

the nerve's pathway into upper extremity on the ipsilateral side, corresponding to a dermatome pattern (1).

>> Cervical radiculopathy is the clinical description of a condition in which a nerve root in the cervical spine becomes inflamed or damaged, resulting in a change of neurological function. Radiculopathy rarely occurs from spontaneous neurogenic inflammation, and it is commonly caused by compression of the cervical nerve root by a substance from a herniated intervertebral disc or arthritic bone spur in the cervical foramen by degenerative alteration. It leads to radicular pain, sensational disturbance, and motor dysfunction along the nerve's pathway into the upper extremity on the ipsilateral side, corresponding to a dermatome pattern (1).

Page 1, lines 8-11: Also, neck or scapular pain is commonly seen prior to the onset of pain of the upper extremity when cervical radiculopathy (2,3). Although a previous article reported cervical nerve root involved in cervical radiculopathy as origin of neck or scapular pain, the cause of the pain has been uncertain (4).

>> In addition, neck or scapular pain is commonly seen before the onset of pain in the upper extremity during cervical radiculopathy (2,3). Although a previous article reported cervical nerve root involvement in cervical radiculopathy as the origin of neck or scapular pain, the cause of the pain had been uncertain (4).

Page 1, lines 11-15: Herein we report a case of herpes zoster with simultaneous skin rash in the upper extremity and interscapular region. To our best knowledge, this is a first report to visualize innervation zone of the medial branches of the dorsal ramus of the cervical nerve root on the scapula where corresponds to the painful scapular region in case of cervical radiculopathy.

>> The aim of this report is to present a case of herpes zoster with simultaneous skin rash in the upper extremity and interscapular region. To the best of our knowledge, this is the first report to visualize the innervation zone of the medial branches of the dorsal ramus of the cervical nerve root on the

scapula, which corresponds to the painful scapular region in cases of cervical radiculopathy.

Page 2 lines 1-3: woman suffered from sudden shoulder pain on the right side without any traumatic episodes and visited our clinic. She had no major medical history including the disease to decrease her immune system.

>> woman presented to our clinic with sudden shoulder pain on the right side without any traumatic episodes. She had no major medical history, and no immunodeficiencies were noted.

Page 2 lines 2 4-7: at 90 degrees of abduction and Hawkins sign was positive (5). Radiological examination showed no abnormality of the shoulder. We suggested no calcific tendonitis of the rotator cuff and treated her with triamcinolone acetonide injection into the subarachnoid space. She transiently relieved from the shoulder pain for 3 days, and afterward, she repeatedly suffered from the shoulder and scapular pain associating with

>> at 90 ° of abduction, and the Hawkins sign was positive (5). Radiological examination showed no abnormality of the shoulder, and on the basis of these findings, non-calcific tendonitis of the rotator cuff was first suggested, and then she was treated with triamcinolone acetonide injection into the subarachnoid space. She was transiently relieved from the shoulder pain for 3 days, and afterward, she repeatedly suffered from shoulder and scapular pain associated with

Page 2 line 10: Spurling's test were positive with her scapular pain and the neuralgia, which was like the symptom of cervical radiculopathy (1).

>> Spurling's test showed positivity for scapular pain and neuralgia, which was similar to the symptom of cervical radiculopathy (1).

Page 2 lines 11-12: rash in the ulnar side of her upper extremity and intrascapular region on the right side simultaneously (*Figure 1*).

>> rash on the ulnar side of her upper extremity and interscapular region on the right side (*Figure 1*).

Page 2 lines 12-17: We consulted a dermatologist on her, and he diagnosed herpes zoster, and

prescribed amenamevir in oral treatment for 7 days with vidarabine ointment. Her neuralgia continued after having disappeared the skin rash and oral treatment with 300mg/day of pregabalin for 14 days, and she was treated with a pain physician. After 1 year, she still had mild causalgia on her III-V fingers on the right side and needed oral treatment with 75mg/day of pregabalin.

>> She was referred to a dermatologist, who diagnosed this rash as herpes zoster and prescribed oral amenavir and topical vidarabine ointment for 7 days. Her neuralgia continued after the disappearance of the skin rash and oral treatment with 300 mg/day pregabalin for 14 days, and she was treated by a pain physician. After 1 year, she presented with mild postherpetic neuralgia of the 3rd to 5th fingers of the right hand and required 75 mg/day oral pregabalin.

Page 3 lines 2-4: Cervical radiculopathy often accompanies neck or scapular pain where does not relate to the dermatome on the backside (2,4). In 2006, Tanaka et al. demonstrated the distinct clinical relationship between the region of the scapular pain and the each indicated level of the involved nerve root in cervical radiculopathy (4).

>>Cervical radiculopathy is often accompanied by neck or scapular pain on the backside (2,4). In 2006, Tanaka et al. demonstrated a distinct clinical relationship between the region of scapular pain and each study indicated a level of the involved nerve root in cervical radiculopathy (4).

Page 3 line 4-6: They showed the scapular pain occurs in the suprascapular, interscapular and scapular regions corresponding to C5 or C6, C7 or 8 and C8 cervical radiculopathy, respectively (*Figure 2*). I

>> They showed that scapular pain occurs in the suprascapular, interscapular, and scapular regions, which correspond to C5 or C6, C7 or 8, and C8 cervical radiculopathy, respectively (*Figure 2*).

Page 3 lines 7-8: that we can predict the level of the compressed nerve root from the region of the associated scapular pain in clinical situation to treat cervical radiculopathy.

>> that the level of the compressed nerve root from the region of the associated scapular pain in clinical situations to treat cervical radiculopathy is predictable.

Page 3 line 11: They found C5>>They found the C5

Page 3 line 12: middle of scapular>> middle of the scapular

Page 3 line 13: it seems>> it seemed

Page 3 line 15-Page 4 line 1: herpes zoster in the ulnar side of her upper extremity and intrascapular region, simultaneously. Of herpes zoster originating from spinal dorsal root ganglia, reactivated varicella zoster virus (VZV) typically travels from the individual single ganglia along the sensory nerves to the skin, causing the prodromal pain followed by eruption of the rash (6), since there is

>>herpes zoster on the ulnar side of her upper extremity and interscapular region. In case of herpes zoster originating from the spinal dorsal root ganglia, reactivated varicella zoster virus (VZV) typically travels from the individual single ganglia along the sensory nerves to the skin, causing prodromal pain followed by eruption of the rash (6), as there is

Page 4 lines 2-4: VZV travelling from the same ganglion, probably from C8 ganglion considering the dermatome of the rash region in the upper extremity, where corresponds to the scapular region related to C7 or C8 cervical radiculopathy illustrated

>>VZV traveling from the same ganglion, probably from the C8 ganglion, considering the dermatome of the rash region in the upper extremity corresponds to the scapular region related to C7 or C8 cervical radiculopathy, as illustrated

Page 4 lines 5-9: of the rash in the intrascapular region originating from thoracic spinal root ganglion since the rash pattern is not in linear fashion along the intercostal nerve. Thus, our finding seems important to visualize innervation zone of the medial branches of the dorsal ramus of C8 cervical nerve root on the scapula, implying the reason why the scapular pain occurs in case of cervical radiculopathy.

>> of a rash in the interscapular region originating from the thoracic spinal root ganglion because the rash pattern is not linear along the intercostal nerve. Thus, our findings are important for visualizing the innervation zone of the medial branches of the dorsal ramus of the C8 cervical nerve root on the

scapula, implying that scapular pain occurs in cases of cervical radiculopathy.

Page 4 line 10: The skin rash by reactivation of herpes zoster is commonly seen in thoracal

>> Skin rash due to reactivation of herpes zoster is commonly seen in the thoracic

Page 4 lines 12-13: is like our case; however, to our knowledge, there is no article to report the rash

>> are similar to our case; however, to our knowledge, no study has reported a rash

Page 4 line 14: no clinicians may imagine>> no clinician can imagine

Page 4 lines 15-16: of cervical spine because of the long distance

>> of the cervical spine because of the large distance

Page 4 line 18: extraordinary so that>> extraordinary; thus,

Page 5 lines 8-9: we report a case of herpes zoster with skin rash in the upper extremity and interscapular region simultaneously.

>> a case of herpes zoster with simultaneous skin rash in the upper extremity and interscapular region was reported.

Page 7 lines 10-12: corresponded to innervation zone of the medial branches of the dorsal ramus of the cervical nerve root where resembles the scapular region in case of C8 cervical radiculopathy. Further case report is appreciated to confirm

>>corresponded to the innervation zone of the medial branches of the dorsal ramus of the cervical nerve root, which resembled the scapular region in the case of C8 cervical radiculopathy. However, further case reports are required to confirm

Comment 2: I would be more cautious when applying the term “causalgia” (Complex regional pain syndrome II) on this patient without more explanation. Perhaps the term “Postherpetic neuralgia (PHN)” is more appropriate in this case.

Reply 2: We have modified our text as advised (see Page 2, line 16).

Change in the text:

Page 2, line 16: causalgia >>postherpetic neuralgia

Comment 3: Your introduction mentioned the definition of cervical radiculopathy is due to "compression of the cervical nerve root". At the end you seem to interchange the fact that the herpes zoster is also causing the cervical radiculopathy. I believe the readers will need more explanation and please be more specific with the terminology that you are using.

Reply 3: We have modified our text as advised (see page 1, lines 2-6).

Change in the text:

Page 1, lines 2-6: Cervical radiculopathy is the clinical description of a condition in which a nerve root in the cervical spine becomes inflamed or damaged, resulting in a change of neurological function. Radiculopathy rarely occurs from spontaneous neurogenic inflammation, and it is commonly caused by compression of the cervical nerve root by a substance from a herniated intervertebral disc or arthritic bone spur in the cervical foramen by degenerative alteration.

Comment 4: Amenamevir is an anti-viral agent that is only approved in Japan. Many readers from other countries may not be familiar with this medicine so you may want to discuss a bit more about the usage, mechanism, clinical indication or dosage.

Reply 4: We have added an explanation about amenamevir as advised (see page 5 lines 1-7).

Change in the text:

Page 5 lines 1-7: In the current case, amenamevir is used for the treatment of herpes zoster. Amenamevir, a herpesvirus helicase-primase inhibitor, has been used for the treatment of herpes zoster in Japan since 2017 (12). It has a different action mechanism from previously approved synthetic

nucleoside compounds for the treatment of herpes zoster, including acyclovir, valacyclovir, and famciclovir. The usual adult dose is 400 mg amenamevir p.o. once daily for 7 days. The benefit is its ability to cure herpes zoster as well as prevent postherpetic neuralgia (12); however, in the current case, the patient still had mild postherpetic neuralgia after 1 year, and she still needed oral pregabalin treatment.

Page 7, lines 10-11: 12. Shoji N, Tanese K, Sasaki A, er al. Pharmaceuticals and Medical Device Agency approval summary: Amenamevir for the treatment of herpes zoster. J Dermatol. 2020;47:683-8.

Comment 5: Are “interscapular” and “intrascapular” the synonyms in your article? I think “interscapular” is probably the right term to use.

Reply 5: We have modified our text as advised (see page 2, line 11, page 3, line 16, page 4, lines 2, 5, 14, and 18, Page 5, line 9 and Page 8, line 3).

Change in the text:

Page 2, line 11, page 3, line 16, page 4, lines 2, 5, 14, and 18, Page 5, line 9 and Page 8, line 3: intrascapular>>interscapular

Comment 6: I would suggest re-summiting this article as “Image” based article instead of a full case report.

Reply 6: Thank you for your comment. When the editorial office recommends publishing this article as “Image” we can accept it.

Reviewer B

This is a very interesting case presentation.

Major remark:

However, the English should be checked by a native speaker as there are a lot of sentences that are difficult to understand.

Reply: This manuscript has been repeatedly checked by a native speaker via Editage.

Some minor remarks:

Comment 1: Abstract:

Avoid « we » style, we present a patient, => a patient is presented. Check this point throughout the entire paper

Reply 1: We have modified our text as advised (see Abstract lines 3-5, page 1 lines 11-12, page 2 line12, page 3 lines 7-8, page 3 lines 15-16, page 4 line 1, page 7 line 8)

Change in the text:

Abstract lines 3-5: We report a case of herpes zoster with simultaneous skin rash in both the upper extremity and interscapular region,

>> The aim of this report is to present a case of herpes zoster with simultaneous skin rash in both the upper extremity and interscapular region,

Page 1 lines 11-12: Herein we report a case of herpes zoster with simultaneous skin rash in the upper extremity and interscapular region.

>> The aim of this report is to present a case of herpes zoster with simultaneous skin rash in the upper extremity and interscapular region.

Page 2 line 12: We consulted a dermatologist on her, and he diagnosed herpes zoster

>> She was referred to a dermatologist, who diagnosed this rash as herpes zoster

Page 3 lines 7-8: that we can predict the level of the compressed nerve root from the region of the associated scapular pain in clinical situation to treat cervical radiculopathy.

>> that the level of the compressed nerve root from the region of the associated scapular pain in clinical situations to treat cervical radiculopathy is predictable.

Page 3 lines 15-16: In the current case, we found blistering skin rash of herpes zoster in the ulnar side of her upper extremity and intrascapular region, simultaneously.

>> In the current case, there was a blistering skin rash of herpes zoster on the ulnar side of her upper extremity and interscapular region.

Page 4 line 1: We can speculate that the rash in the upper extremity

>> It seems that the rash in the upper extremity

Page 7 line 8: In conclusion, we report a case of herpes zoster with skin rash in the upper extremity and interscapular region simultaneously.

>> In conclusion, a case of herpes zoster with simultaneous skin rash in the upper extremity and interscapular region was reported.

Comment 2: Case presentation:

P3 Line 17: including the disease to decrease her immune system. This is not clear: No immunodeficiencies were present.

Reply 2: We have modified our text as advised (see page 2 lines 2-3).

Changes in the text:

Page 2, lines 2-3: She had no major medical history, and no immunodeficiencies were noted.

Comment 3: P4 line 2: We suggested no ??? calcific tendonitis of the rotator cuff and treated her with

triamcinolone acetonide injection into the 4 subarachnoid space. I don't understand ? What was the time interval between the 2 examinations?

Reply 3: We have modified our text as advised (see page 2, lines 5-7).

Changes in the text:

Page 2, lines 5-7: …, and on the basis of these findings, non-calcific tendonitis of the rotator cuff was first suggested, and then she was treated with triamcinolone acetonide injection into the subarachnoid space.

Comment 4: P4 line 8. she had a blistering skin rash in the ulnar side

Reply 4: We have modified our text as advised (see Page 2, line 11).

Changes in the text:

Page 2, line 11: she had a blistering skin rash on the ulnar side.

Comment 5: P4 line 9: A dermatologist diagnosed HZ and prescribed oral amenavir and topical vidarabine ointment.

Reply 5: We have modified our text as advised (see page 2, lines 12-14).

Changes in the text:

Page 2, lines 12-14: She was referred to a dermatologist, who diagnosed this rash as herpes zoster and prescribed oral amenavir and topical vidarabine ointment for 7 days.

Comment 6: P4 line 13: After 1 year, she still had mild causalgia on her III-V fingers on the right side and needed oral treatment with 75mg/day of pregabalin. +> she still presented mild causalgia of the 3rd to 5th fingers of the right hand requiring oral pregabalin 75mg per day.

Reply 6: We have modified our text as advised (see page 2, lines 15-17).

Changes in the text:

Page 2, lines 15-17: After 1 year, she presented with mild postherpetic neuralgia of the 3rd to 5th fingers of the right hand and required 75 mg/day oral pregabalin.

Comment 7: P4 line 17: what do you mean with "where does not relate"?

Reply 7: We have deleted "where does not relate" to avoid confusion as advised (see Page 3, line 2).

Changes in the text:

Page 3, line 2: Cervical radiculopathy is often accompanied by neck or scapular pain on the backside (2,4).

Comment 8: P5 line 2. They showed that……

Reply 8: We have modified our text as advised (see Page 3, line 4).

Changes in the text:

Page 3, line 4: They showed that scapular pain occurs in the suprascapular region.