



Motor Paresis in Herpes Zoster- a Rare Complication

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ABSTRACT

Herpes Zoster caused by varicella zoster virus is a rare but potential cause of motor weakness. Segmental zoster paresis is an exceptional complication of herpes zoster characterized by focal weakness that may not occur simultaneously with cutaneous manifestations. It can be easily misdiagnosed as neuro muscular or spinal disease. Motor nerves may be involved in 5 to 15% of cases affecting the muscles of extremities. Careful examination and electromyography studies show that the muscles are implicated in about 50% of the cases patients may land up in orthopaedic department, suggesting underlying spinal disease. We report a patient who was misdiagnosed as a case of 'frozen shoulder' with irritant contact dermatitis secondary to topical analgesic gel. MRI scan of spine was planned and simultaneously dermatological consultation was sought for contact dermatitis. It was a case of herpes zoster involving C4-T2 dermatomes of right side. Subsequently within a period of one week she notices progressive weakness in abduction movements of right upper limb. Segmental zoster paresis is a rare complication, it should be considered in differential diagnosis of segmental pain and weakness of extremities especially in elderly and immunocompromised patients. Diagnosis as established on clinical feature and electromyography studies and MRI spine. Correct diagnosis avoids unnecessary surgical management and allows timely antiviral treatment to prevent post herpetic neuralgia.

Key Words: segmental paresis, herpes zoster, complications.

INTRODUCTION

Herpes zoster (HZ) results from reactivation of varicella zoster virus (VZV) in dorsal root or cranial nerve ganglia and it spreads to the neural tissue of affected segment and corresponding dermatome ⁽¹⁾. Although segmental motor paralysis, both visceral and somatic, is an unusual and less well known complication it sometimes occurs in the same or in adjacent involved dermatome ⁽²⁾. A case

of zoster paresis of the shoulder muscles is offered to remind the orthopaedic community that this diagnosis may be mystified with other diagnosis including rotator cuff tear and should be well thought out in the differential diagnosis of shoulder pain and girdle muscle weakness. Familiarity of this disorder is important, as it may eliminate unwarranted invasive investigations and prompts appropriate management can be instituted.

CASE REPORT

A 58 years old women was referred from the department of orthopaedic to manage allergic contact dermatitis anticipated to diclofenac gel as she presented there with extremely painful right shoulder, arm and right hand started five days ago. She applied diclofenac gel locally for pain relief but overnight blistering rash with burning pain developed. Orthopaedic surgeon considered her as a case of 'frozen shoulder', rupture of supra-spinatus muscle or a neuropathy. She was advised investigations accordingly. When she presented herself to dermatology department, on examination grouped vesicular rash involving C4-T2 dermatomes, with lancinating pain having visual analogue scale score 9-10/10, where score 10 represents the worst possible pain. The routine investigations were normal; HIV serology was negative. She was prescribed antiviral therapy with fenciclovir 500mg thrice a day, gabapentin 900mg daily in divided doses along with analgesic therapy. After a week of therapy she was again reviewed when she complained about weakness in abduction in right arm although the pain was not of concern now. Then on neurological consultation nerve conduction studies and MRI spine with contrast was advised. Patient was continued on antiviral and gabapentin 900mg per day in divided doses. Nerve conduction studies confirmed axonal neuropathy and MRI revealed changes consistent with neuromuscular involvement. The patient was started on tapering doses of prednisolone for a period of three weeks along with gabapentin. She also underwent physiotherapy, which focussed on rehabilitation and strengthening of her right shoulder. After 8 weeks the patient showed significant improvement in muscle weakness.



Figure: Grouped vesicular rash involving C4-T2 dermatomes.

DISCUSSION

Most of the physicians are familiar with acute herpes and disabling post herpetic neuralgia (PHN). Zoster associated motor symptoms are rare often misdiagnosed ⁽³⁾. Motor paresis by herpes zoster is rare, as mostly it is the disease of sensory nerves. Cranial nerves especially facial, vestibule-cochlear and optic nerves are the most commonly involved. Rarely a peripheral motor nerve of an extremity may be involved resulting in profound weakness ^(4,5). The first case of motor weakness following herpes zoster was reported in 1866 in a patient with brachial plexus involvement leading to subsequent partial motor palsy of upper limb ⁽⁶⁾. The at hand

case presented to us with acute painful, vesicular, zoster rash followed by muscular weakness in the abduction of right shoulder. Segmental limb paresis with cutaneous zoster are rare with incidence of 1-5% in various studies⁽³⁾. But the true incidence is unknown because cervical and thoracic motor weakness is difficult to notice. Electromyographic studies and MRI spine may establish the motor involvement with clinically subtle symptoms. There are occasional cases of post herpetic neuropathy involving diaphragm, gastrointestinal tract giving rise to clinical features of gastroparesis, intestinal pseudo obstruction, bladder and abdominal muscles where zoster paresis may be easily misdiagnosed as abdominal herniation⁽⁷⁾. Herpes zoster virus infection is attributed to reactivation of HZV in the spinal posterior root and sensory ganglion of cranial nerves⁽⁸⁾. The reappearance of virus occurs often for anonymous reasons. However immune-compromised state (diabetes, renal failure, malignancy, steroids, chemotherapy or human immunodeficiency virus infection) may prompt the reactivation of HZV. Diagnosis is often clinical, painful necrotic cutaneous rash should guide the clinicians in most instances avoiding misdiagnosis. Although differential diagnosis includes zosteriform herpes simplex virus infection, impetigo, folliculitis, scabies, contact dermatitis, urticarial and /or drug rash⁽⁹⁾. Many investigations can be avoided if physicians are familiar with clinical features of herpes zoster. However neurological review, EMG studies and MRI spine are helpful especially in motor paresis excluding nerve root compression⁽⁹⁾. Prompt antiviral therapy may prevent occurrence of motor paresis but there was not enough evidence to support whether it speeds the recovery. Although this reduces the zoster associated pain, fast recovery of skin lesions and reduces chances of getting PHN⁽¹⁰⁾.

CONCLUSION

Varicella zoster infection should always be kept in mind while dealing with motor neuropathy with cutaneous rash. Dermatologists, neuro-physicians, surgeon and general practitioners should be aware

with the clinical features of HZ and its complications which help in prompt referral; correct and early management for faster and better outcome.

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