Post Herpetic Spinal Segmental Paralysis

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Introduction

Herpes zoster is a common neurocutaneous viral infection caused by reactivation of varicella zoster virus (VZV) in the sensory ganglia. It is characterized clinically by radicular pain and vesicular cutaneous eruptions in dermatomal distribution [1]. Though, principally a disease of sensory ganglia, motor involvement is not uncommon. However motor involvement generally involves cranial nerves. Motor palsies of spinal roots due to herpes zoster are rarely recorded. Recently we came across a case of post herpetic spinal segmental paralysis which is being reported.

Case Report

A 16 year old male presented with severe pain in right shoulder and upper limb of three days duration and blisters on right upper limb of two days duration. He denied history suggestive of systemic illness or any history of drug intake prior to appearance of skin lesions. General physical and systemic examinations did not reveal any abnormality. Dermatological examination revealed multiple grouped vesicular and few bullous lesions on erythematous base over right shoulder, arm, forearm and hand in C5, C6 and C7 dermatomes. Few aberrant vesicles were also present on chest and back. Routine haematology and urinalysis were normal and enzyme-linked immunosorbent assay (ELISA) for human immunodeficiency virus (HIV) antibody was negative. He was diagnosed as a case of herpes zoster and managed with tablet acyclovir, analgesics and soothing lotions. Skin lesions healed in about three weeks time. However, severe pain persisted. He developed paralysis of right upper limb which was marked at shoulder (Fig.1). The power of muscles varied from Grade '0' to Grade '3' in muscles enervated by right C5, C6 and C7 nerve roots (Table 1). There was hypotonia and hyporeflexia of affected muscles suggesting lower motor neuron paralysis. There was wasting of scapular muscles leading to increased prominence of spine of right scapula. Sensations were normal. Plain radiograph and magnetic resonance imaging of cervical spine were normal. He was

managed with tablet carbamazepine and physiotherapy, in the form of interrupted galvanic stimulation of completely paralysed muscles and assisted active exercises of partially paralysed muscles. He started improving in about a month's time and achieved considerable power by the end of three months (Table 1).

Discussion

Herpes zoster is a common viral infection with an average incidence of 3 to 5 per 1000 population per year [1]. It occurs as a result of reactivation of latent endogenous virus within sensory ganglia following an earlier attack of varicella [2]. Factors responsible for reactivation of virus in spinal / cranial nerve ganglia include waning immunity related to age, immunosuppressive diseases or drugs therapy, local trauma, local irradiation and possible musculoskeletal problems. Post herpetic neuralgia is the commonest the sequel, the incidence of which also increases with the age [1,2].

Motor neuropathy is an uncommon complication that may follow an out break of herpes zoster. It occurs in

Fig. 1 : Paralysis of abductors of right shoulder

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Table 1**Muscle charting (Right upper limb)**

Group of muscles	Muscle power			
	Initial	1 Month	2 Months	3 Months
Shoulder				
Abductors	0	<2	3	4
Adductors	<3	<3	4	5
Flexors	0	2	4	4
Extensors	<3	3	3	5
Internal rotators	3	3	4	4
External rotators	2	3	3	4
Elevators	5	5	5	5
Depressors	0	<3	4	5
Elbow				
Flexors	3	<4	4	4
Extensors	3	<4	4	4
Pronators	3	4	4	5
Supinators	3	4	5	5
Wrist				
Flexors	3	4	5	5
Extensors	3	4	5	5
Radial deviators	3	4	4	5
Ulnar deviators	4	4	4	5
Thumb				
Flexors	3	4	5	5
Extensors	4	4	5	5
Abductors	4	4	5	5
Adductors	4	4	4	5
Opponents	4	4	5	5

about 5% of cases [3]. However motor paralysis in herpes zoster mostly involve cranial nerves. Ocular paralysis has been reported in 13% and facial palsies in 7% of ophthalmic zoster cases [3]. Motor palsy due to spinal nerve involvement is uncommon. In a series involving 1432 cases of herpes zoster, Akiyama [4] reported, 11(0.8%) cases developing lower motor neuron paralysis and all of them were above 60 years of age. Motor involvement in herpes zoster is due to spread of infection from dorsal root ganglia to the same segment of spinal cord mainly in posterior horn and occasionally to anterior horn cells with consequent lower motor neuron paralysis [5]. Lower motor neuron paralysis may also occur from damage to anterior nerve root where it joins dorsal root ganglia [5]. This type of paralysis usually occurs in first few weeks after onset of skin rash but occasionally precedes or accompany them [3]. Prognosis of these cases is generally good with 55% cases showing complete recovery and 30% with significant improvement in three weeks to six months time [5].

There are few reports on spinal segmental motor paralyse due to herpes zoster from India. Studies on clinical / clinico epidemiological profile of herpes zoster [6,7] from India, did not report any incidence of spinal segmental motor paralysis. Nagabhushana et al [8], reported a case of an 60 years old male, presenting with weakness of right upper limb muscles supplied by C8 and T1 nerve roots two weeks after having herpes zoster of same dermatome. Dutta et al [9], reported a case of wrist drop complicating herpes zoster and Chopra et al [10], reported a case of herpes zoster with ulnar nerve paresis.

The present case is reported for its rarity, younger age of the patient and almost complete recovery in about three months times.

Conflicts of Interest

None identified

References

- Adams RD, Victor M, Ropper AH, editors. Syndromes of Herpes zoster. In: Principles of Neurology, International edition. New York: Mc-Graw Hill 1997; 756-9.
- Strauss SE, Kenneth ES, Oxman MN. Varicella and Herpes zoster. In: Freedberg M, Eisar AZ, Wolff K, Austen KF, Goldsmith LA, Katz SI, editors. Fitzpatrick's Dermatology in General Medicine. 6th edition. New York: Mc Graw Hill, 2003; 2070-85.
- Sterling JC, Kurtz JB. Varicella (Chickenpox) and zoster (shingles). In : Champion RH, Burton JL, Burns DA, Breathnach SM, editors. Rook, Wilkinon, Ebling Textbook of Dermatology. 6th edition, London: Blackwell Sciences 1998; 1015-22.
- Akiyama N. Herpes zoster infection complicated by motor paralysis. J Dermatol 2000; 27: 252-7.
- Bradley GB. Myelopathies affecting anterior horn cells, In : Dyck PJ, Thomas PK, Lambert HE editors. Peripheral Neuropathy. 2nd edition. Philadelphia : WB Saunders, 1984; 1351- 67.
- Nigam P, Tandon VK, Kumar R. Herpes zoster: A clinical profile. Ind J Dermatol Venereol 1972; 38: 152-5.
- Chaudhary SD, Dashore A, Pahwa US. Clinico epidemiological profile of herpes zoster in North India. Indian J Dermatol Venerol Leprol 1987; 53: 312-6.
- Nagabhushana NR, Ashakiran BG, Satish DA, Sumathy TK. Post herpes zoster motor deficit. Ind J Dermatol Venerol Leprol 1992; 58:50.
- Dutta RK, Tewari VD, Prasad GK, Narayanswamy AS, Ichaporia NR. Herpes zoster with wrist drop and aberrant lesions. Indian J Dermatol Venereol Leprol 1987; 53: 187-8.
- Chopra A, Mamta D. Herpes zoster with ulnar nerve paresis. Ind J Dermatol Venereol Leprol 1995; 61: 125-7.