Syndromes Associated With Herpes Zoster

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Abstract
Herpes zoster (HZ) or “shingles” is one of the most common neurological conditions worldwide. It occurs as a result of a reactivated varicella zoster virus (VZV) infection. Anaesthetists and pain specialists may find themselves consulted to manage the often severe and disabling pain of an acute episode. It is associated with many syndromes which should be considered in depth while diagnosing the case of herpes zoster which can be the deciding factor in the management of herpes zoster.

Keywords: P. aeruginosa; Multidrug resistance

Introduction
The various syndromes associated with Herpes Zoster are:-

1. James Ramsay hunt syndrome
2. Guillain Barre Syndrome
3. Congenital varicella syndrome

Progressive Outer Retinal Necrosis (PORN) syndrome

JAMES RAMSAY HUNT SYNDROME (HUNT’S SYNDROME)
Ramsay Hunt syndrome involves peripheral facial nerve palsy accompanied by an erythematous vesicular rash on the ear (zoster oticus) or in the mouth. J Ramsay Hunt, who described various clinical presentations of facial paralysis and rash also recognised other frequent symptoms and signs such as tinnitus, hearing loss, nausea, vomiting, vertigo and nystagmus. He explained these eighth nerve features due to the close proximity of the geniculate ganglion to the vestibulocochlear nerve within the bony facial canal. Hunt's analysis of clinical variations of the syndrome led to his recognition for the general somatic sensory functioning of the facial nerve.

As Compared with Bell's palsy (facial paralysis without rash) patients with Ramsay Hunt syndrome often have more severe paralysis at onset and are less likely to recover completely. Studies suggest that treatment with prednisone and acyclovir may improve outcome. In the light of the known safety and effectiveness of antiviral drugs against varicella zoster virus or herpes simplex virus, consideration should be given to early treatment of all patients with Ramsay Hunt syndrome or Bell's palsy. The treatment may start with a 7-10 day course of famciclovir (500 mg three times daily) or acyclovir (800 mg, five times daily) as well as oral prednisone. Some patients may develop peripheral facial paralysis without ear or mouth rash associated with either a fourfold rise in antibody to varicella zoster virus or the presence of varicella zoster virus DNA in auricular skin blood mononuclear cells, middle ear fluid or saliva. This indicates that a proportion of patients with "Bell's palsy" have Ramsay Hunt syndrome zoster sine herpete. Treatment of these patients with acyclovir and prednisone within 7 days of onset has been shown to improve the outcome of the recovery.

Guillain Barre Syndrome
Guillain-Barre’ syndrome (GBS) is an immune-mediated disorder of the peripheral nervous system. The disorder is characterized by symmetrical weakness that usually starts from the lower limbs first and rapidly progresses in an ascending fashion. Patients generally notice weakness in their legs manifesting as “rubberly legs” or legs that tend to buckle with or without dysesthesias (numbness or tingling). As the weakness progresses upward usually over periods of hours to days, the arms and facial muscles also become affected. Frequently the lower cranial nerves may be affected leading to bulbar weakness, oropharyngeal dysphagia and respiratory difficulties. Facial weakness is also common.
Eye movement abnormalities are not commonly seen in GBS but are a prominent feature in the Miller-Fisher, a variant of GBS which manifests as a descending paralysis.\(^2\)

In severe cases of GBS, loss of autonomic function is common, which manifests as wide fluctuations in blood pressure, orthostatic hypotension leading to an increased risk of collapse and cardiac arrhythmias.

It may occur a few days or weeks after the patient had symptoms of a respiratory or gastrointestinal viral infection like herpes zoster. Occasionally, surgery or vaccinations will trigger the syndrome. It can affect people at any age. Both men and women are equally affected. In this the immune system starts to destroy the myelin sheath that surrounds the axons of many nerves.

The uncommon occurrence of GBS after herpes zoster suggests that most individuals with herpes zoster are in some way able to suppress an autoimmune reaction. It is possible that the frequency of this syndrome is underestimated and that careful examination of patients with herpes zoster may reveal mild cases.\(^2\)

**Congenital varicella syndrome**

Varicella infection in pregnant women could lead to viral transmission via the placenta and infection of the fetus. If infection occurs during the first 28 weeks of gestation, this can lead to fetal varicella syndrome (also known as congenital varicella syndrome).\(^3\) Effects on the fetus can range from underdeveloped toes and fingers to severe anae and bladder malformation.

**It includes:-**

- **Damage to brain:** Encephalitis, microcephaly, hydrocephaly, aplasia of the brain.
- **Damage to the eye:** Microphthalmia, cataracts, chorioretinitis, optic atrophy
- **Other neurological disorder:** Damage to cervical and lumbosacral spinal cord, motor/sensory deficits, absent deep tendon reflexes and anisocoria.
- **Damage to body:** Hypoplasia of upper/lower extremities, anal and bladder sphincter dysfunction
- **Skin disorders:** (Cicatricial) skin lesions, hypopigmentation (Figure 1)

Infection occurring late in the gestation period or immediately following birth is referred to as "neonatal varicella". Maternal infection is associated with premature delivery. The risk of the baby developing the disease is greatest following exposure to infection in the period 7 days prior to delivery and up to 7 days following the birth. The baby may also be exposed to the virus via infectious siblings or other contacts but this is of less concern if the mother is immune. Newborns that develop symptoms are at a high risk of pneumonia and other serious complications of the disease.

**Progressive Outer Retinal Necrosis Syndrome:**

The progressive outer retinal necrosis (PORN) syndrome is a clinical variant of necrotizing herpetic retinopathy in patients with the acquired immunodeficiency syndrome (AIDS).\(^5,6\) It is caused by varicella zoster virus infection of the retina. Early disease is characterized by multifocal deep retinal opacification. Lesions rapidly coalesce and progress to total retinal necrosis over a short period of time (figure-2). The prognosis is poor despite of the aggressive therapy with intravenous antiviral drugs. Henceforth, the disease progression or recurrence is common and the majority of patients develop no perception to light.\(^[7,8]\)

![Fig. 2](image)

![Fig. 1](image)

Treatment with antivirals such as ganciclovir, foscarnet or acyclovir has been shown to be ineffective. But some studies have shown evidence that combination antiviral therapy may delay progression of the disease.\(^7\) Recently a possible beneficial effect of oral sorivudine has been reported.

**References**

