

CASE REPORT

## A case of herpes zoster presenting as orbital cellulitis

### Orbital selülit olarak kendini gösteren herpes zoster: Olgu sunumu

Ali AL-RİKABİ, M.D., Matthew I. TROTTER, M.D., Hassan KHAN, M.D., Vivek V. RAUT, M.D.

We presented an unusual case of ophthalmic herpes zoster masquerading as orbital cellulitis, resulting in delay in appropriate treatment. A 65-year-old woman presented with left periorbital pain and swelling of a week duration. Examination revealed periorbital edema and inflammation but no proptosis. The erythema extended onto the brow. There was no change in visual acuity and cranial nerve function was normal. She was afebrile and all other parameters were within normal limits. The patient was admitted with an initial diagnosis of sinusitis with orbital cellulitis/dacryocystitis and intravenous co-amoxiclav and a non-steroidal anti-inflammatory drug were administered. The following day, there was little change in her condition with the ocular movements being normal and vision remaining unaffected. She was afebrile but the periorbital swelling persisted. Computed tomography of the sinuses did not show sinusitis or a periorbital collection. The third day after admission and 10 days after the initial appearance of pain, vesicles appeared on the left forehead, which enabled a diagnosis of herpes zoster of the ophthalmic branch of the trigeminal nerve. She was then treated with acyclovir with a good result.

**Key Words:** Diagnosis, differential; herpes zoster/diagnosis/complications; orbital diseases; trigeminal nerve.

Bu yazıda, 65 yaşında bir kadın hastada rastladığımız, orbital selülit enfeksiyonu şeklinde kendini gösterdiğinden tedavide gecikmeye yol açan nadir bir oftalmik herpes zoster sunuldu. Hasta, bir haftadır var olan sol periorbital ağrı ve şişlik ile başvurdu. Muayenede periorbital ödem ve enflamasyon vardı, ama ateş yoktu; eritem kaşlara kadar uzanıyordu. Hastanın görme keskinliğinde değişiklik yoktu, kranyal sinir fonksiyonu, ateşi ve tüm diğer bulguları normaldi. Orbital selülit/dakriyosistitle birlikte sinüzit öntanısıyla yatırılan hastaya intravenöz ko-amoksiklav ve non-steroid anti-enflamatuvar tedavisine başlandı. Ertesi gün hastanın durumunda bir değişiklik gözlenmedi; oküler hareketleri normaldi, görmesi etkilenmemişti ve ateşi yoktu. Periorbital şişliğin devam etmesi üzerine sinüsleri bilgisayarlı tomografiyle incelendi ve sinüzit veya periorbital bir birikime rastlanmadı. Yatışının üçüncü gününde ve ağrının ortaya çıkışından 10 gün sonra alının sol bölgesinde veziküller belirdi. Bu durum, trigeminal sinirin oftalmik dalını tutan herpes zoster tanısına götürdü. Asiklovirle tedavi edilen hasta tamamen iyileşti.

**Anahtar Sözcükler:** Tanı, ayırıcı; herpes zoster/tanı/komplikasyon; orbital hastalık; trigeminal sinir.

Herpes zoster or shingles is generally seen in adults and is caused by reactivation of the latent varicella zoster virus. The virus is acquired during chickenpox infection (Varicella) which occurs mostly in childhood. One hypothesis suggests that the virus

passes from the sensory nerve endings to the ganglia during the primary infection with the varicella zoster virus.<sup>[1]</sup> Transmission is via direct contact with vesicles or inhalation of airborne respiratory secretions.<sup>[2]</sup>

♦ Head & Neck Department, Russells Hall Hospital, Dudley Group of Hospitals, Dudley UK.

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♦ Correspondence: Dr. Ali Al-Rikabi, Head & Neck Department, New Cross Hospital, Wolverhampton WV10 0QP UK.  
Tel: +44 0 781 649 20 59 Fax: +44 0 190 269 56 59 e-mail: alikamil30@yahoo.com

Herpes zoster can affect any dermatome but thoracic and ophthalmic dermatomes being the commonest sites affected. Ocular complications occur in approximately 50% of patients with ophthalmic zoster. Involvement of the mandibular and maxillary trigeminal distributions may present as "tooth ache" leading to dental extraction, tooth exfoliation, and osteonecrosis. Facial nerve involvement is also common and this constitutes Ramsey Hunt syndrome (vesicles on the tympanic membrane and external auditory canal with concomitant facial nerve palsy).<sup>[3,4]</sup>

Clinically, herpes zoster usually manifests in three stages: (i) Prodromal stage of pain (which is frequently burning, intermittent or constant in nature) over the skin area supplied by the involved nerve. This may be associated with fever, malaise, and headache for up to four days before the appearance of the vesicles. (ii) The acute stage follows with the development of characteristically grouped vesicles. This mostly involves one dermatome but involvement of up to three is not uncommon. It starts as an erythematous maculopapular rash which progressively organizes to form clusters of vesicles. It persists for 7 to 10 days before crusting. (iii) In the chronic stage, known as post herpetic neuralgia, pain is persistent despite complete healing of the skin lesions. This could last for months or even years.<sup>[2,5]</sup>

### CASE REPORT

A 65-year-old Caucasian female attended Accident and Emergency unit complaining of left periorbital pain and swelling of a week duration. She had been prescribed amoxicillin for an upper respiratory tract infection by her general practitioner for complaints of nasal congestion and rhinorrhoea. She had increasing pain on the left side of her face. Examination revealed periorbital edema and inflammation but no proptosis. The erythema extended onto the brow. There was no change in visual acuity and cranial nerve function was normal. The patient was afebrile and all other parameters were within normal limits. A full blood count did not show leucocytosis. She was on lansoprazole and celecoxib for arthritis, awaiting a total hip replacement. A past history of chronic sinusitis was noted, for which she had previously undergone an antral washout.

The patient was admitted under the care of the ENT department with a differential diagnosis of

sinusitis with orbital cellulitis/dacryocystitis. The patient was commenced on intravenous co-amoxiclav and a non-steroidal anti-inflammatory drug for pain relief. The following day, there was little change in the patient's condition with the ocular movements being normal and vision remaining unaffected. The patient was afebrile but the periorbital swelling persisted. A CT scan of the sinuses did not show evidence for sinusitis or a periorbital collection, though it did reveal a mild periorbital soft tissue swelling. Accordingly, intravenous antibiotics were stopped and oral antibiotic therapy was commenced. The third day after admission, 10 days after the initial appearance of pain, vesicles appeared on the left forehead and herpes zoster of the ophthalmic branch of the trigeminal nerve was diagnosed, which was then treated with acyclovir with a good result.

### DISCUSSION

In most cases, diagnosis of herpes zoster is made depending on the characteristic features of the infection, specifically pain of one to four days<sup>[5]</sup> preceding skin changes which confirm the diagnosis. The initial diagnosis may not be obvious prior to vesicular eruptions and the differential diagnosis includes trigeminal neuralgia, sinusitis (mostly maxillary), periodic migrainous neuralgia, impetigo, and atypical facial pain.<sup>[2,6]</sup>

The branches of the ophthalmic division of the trigeminal nerve supply sensory innervations of the surrounding skin, palate, and the eye. The frontal branches, supraorbital and supratrochlear division are most commonly involved. Involvement of the nasociliary, infratrochlear and nasal (Hutchinson's sign) branches, which supply the tip of the nose, is associated with serious ocular complications. It is rare to have all the three branches of the ophthalmic division of the trigeminal nerve involved at the same time (lacrimal nerve is the 3rd branch).<sup>[4,5]</sup>

In this case, periorbital cellulitis was initially diagnosed on the basis of previous sinus disease (requiring operative intervention) and the clinical picture of eyelid edema, pain, erythema, and nasal symptoms. It was not typical of sinus-related periorbital cellulitis as the pain seemed out of proportion to the clinical picture. The patient had exquisite tenderness over the lacrimal sac and inner canthus, and this persisted for 10 days prior to development of

any vesicles. The appearance of the vesicles was, as always, the crucial event in establishing the definite diagnosis. The frontal branches were involved, as the rash followed the course of these two branches.

The patient had a full recovery with no ocular complications.

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