Optic Neuritis: A Rare Complication of Primary Varicella Infection

Optic neuritis is an extremely rare complication of chickenpox that has been the subject of isolated case reports [1–4]. Selbst et al. reviewed the cases of eight patients aged 3–14 years, and Miller et al. described the first three adult cases [2, 3]. All 11 patients had visual symptoms that occurred during or after the onset of varicella rash and that ranged from 2 to 38 days [2–4]. Visual loss is nearly always bilateral in patients with optic neuritis and can be severe. We describe an unusual case of monocular optic neuritis due to varicella in an adult whose visual symptoms preceded the varicella rash.

A healthy 25-year-old female presented with a 3-week history of progressive blurring of vision of her left eye. She did not have associated eye pain, diplopia, or headache. Five days after the onset of visual blurring, she developed vesicles over her upper lip that spread to the rest of her body. She apparently had not been
The diagnosis of acute varicella infection with left optic neuritis was made. The patient was given iv methylprednisolone (0.5 g q.d. for 5 days) followed by oral prednisolone (45 mg q.d. for 11 days) in tapered doses. At the same time, she was given iv acyclovir (500 mg q8h for 3 days) followed by oral acyclovir (800 mg five times per day for 13 days). Four days after the initial treatment, her visual acuity returned to normal although her color vision was still impaired. Her vision was completely restored after 1 month. She remains well and has not had any further attacks of optic neuritis or other neurological symptoms two years after her admission.

Our case is unique in that the visual complications preceded the onset of the varicella rash. To our knowledge, only one other case with a similar presentation has been reported [1]. The pathogenesis of viral-associated optic neuritis has not been well established. The delayed onset of optic neuritis and the frequent bilateral involvement and near-complete recovery in many cases suggest an immune-mediated process with consequent demyelination [2, 3]. Our observation that the ocular symptoms preceded the systemic infection suggests that the optic neuritis may instead be due to direct viral invasion.

Herpes zoster–associated optic neuritis and necrotizing retinitis are believed to result from viral invasion secondary to varicella reactivation or to dissemination from the dermatomal lesions. These infections are seen in both immunocompetent and HIV-infected patients and are associated with extensive visual loss [5, 6]. Unlike varicella-associated optic neuritis, the outcome for patients with herpes zoster–associated optic neuritis and necrotizing retinitis is extremely poor despite acyclovir treatment.

In most cases of varicella-associated optic neuritis, vision is completely restored, although there may be residual optic disk pallor [2]. The use of steroids to treat optic neuritis is controversial. Other patients [1, 2] have recovered without receiving steroid therapy, although it is believed to hasten recovery [3]. Two patients had severe residual visual loss 6 months after the onset of optic neuritis despite receiving steroid therapy [3, 4]. We administered steroids with acyclovir to our patient since the visual symptoms preceded the rash. The patient’s symptoms started to decrease only a few days after the initiation of therapy. The present case illustrates that it is still not understood whether the pathogenesis of varicella-associated complications is due to direct viral invasion, to an immune-mediated process, or to both.

## References


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**Streptococcal Venereal Edema of the Penis**

The cause of penile edema is often unclear. This condition has been variously described as “idiopathic” in children [1] and as occurring secondary to infection with *Chlamydia trachomatis* or group G streptococci [2]; one case due to group B streptococci in a neonate has been reported [3]. We describe two cases of penile edema and cellulitis in monogamous males; these cases occurred after the patients had engaged in vaginal intercourse, and one was due to *Streptococcus pyogenes*, while the other was due to *Streptococcus agalactiae*. Neither of the couples had engaged in fellatio.

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**Case 1.** A 51-year-old male presented with fever, swelling of the penis, and erythema of the pubis on 2 October 1992. Physical examination revealed bilateral inguinal tenderness and swelling. The patient was treated with amoxicillin for 5 days, and his condition improved. Six months later he presented with the same clinical complex, and specimens for culture were obtained from his urethra as well as from his partner’s vagina (she was asymptomatic). A group B streptococcus (*S. agalactiae*) was isolated from both specimens. The patient and his partner were both treated with amoxicillin, and the patient’s condition improved. He reported no further episodes at a 3-year follow-up assessment.

**Case 2.** A 38-year-old male presented with fever (temperature, to 39°C) and swelling of the penis on 14 May 1996. Examination revealed penile edema and erythema with bilateral enlarged inguinal lymph nodes and overlying erythema of the skin (figure 1). Findings on examination of his wife, who was asymptomatic, were normal except for the presence of minimal vaginal discharge; an IUD was also present. Cultures of specimens from the patient’s urethra were negative. Cultures of vaginal specimens from his wife yielded a group A streptococcus (*S. pyogenes*). Both the patient