

The natural history of Stevens-Johnson syndrome: patterns of chronic ocular disease and the role of systemic immunosuppressive therapy.

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Appendix 1

Case Reports

Case 16. (Illustrating late SJS-OSF) SJS developed in a 10 year-old boy in February 1996 following a presumptive diagnosis of a systemic viral illness. During the acute stage of the disease total epithelial defects occurred on both corneas and conjunctival adhesions were divided by manual debridement. He was treated with an intensive regimen of preservative-free dexamethasone and ofloxacin eye drops.

Seven months after the acute episode he was comfortable with 6/6 unaided vision in each eye, using topical preservative-free lubricants. There was a left lower lid entropion with subepithelial scarring, keratinisation of marginal sulcus, trichiasis of both lower lids, keratinisation of the bulbar conjunctiva, and bilateral punctate epithelial keratopathy. There was a small off-axis corneal scar and limbal scarring in the right cornea.

He had surgery for the right entropion (inferior fornix mucous membrane graft, lower lid eversion and electrolysis) in April 1997, followed by repeated bilateral lower lid electrolysis in August 1997. Over the two years following the acute episode he developed surface failure in the right eye, so that by January 1998, the right cornea was completely vascularised and the visual acuity reduced to 6/60. Impression cytology showed partial surface failure with a mosaic of cornea-derived epithelium (expressing cytokeratin 3) and conjunctiva-derived cells (expressing cytokeratin 19) in 1998; conjunctival biopsy was normal. In the left eye, two areas of peripheral vascularisation appeared but have not progressed and the visual acuity remains 6/6. In 1998 he started topical retinoic acid as treatment for conjunctival keratinisation, which has improved his comfort. Following failed electrolysis for aberrant lashes, he requires epilation every three months.

Case 23. (Illustrating SJS-S and late SJS-OSF) SJS developed in a 24 year-old girl after taking ibuprofen in 1995. When first seen at MEH in 1995, her visual acuity was

6/6 unaided in the right eye and 6/12 unaided in the left eye, pinholing to 6/9. The corneas were normal but there was right upper and lower lid entropion. Successful right upper and lower lid gray-line splits and anterior lamellar repositioning surgery was performed. She used topical lubricants alone until December 2000, when a left necrotising sclerokeratitis developed. Vasculitic screening was normal (full blood count, urea and electrolytes, liver function tests, rheumatoid factor (RhF), anti-nuclear antibody (ANA), extractable nuclear antigen (ENA), anti-neutrophil cytoplasmic antigen (ANCA), angiotensin-converting enzyme (ACE) and luetic serology was negative. Herpes simplex serology was positive. She was started on oral prednisolone, aciclovir and ciclosporin. When the condition did not improve she was admitted for three pulses of methylprednisolone (1gram/day) and the ciclosporin was switched to mycophenolate because of poor tolerance of ciclosporin. This episode of inflammation was uncontrolled for the first 3 months, leading to irregular astigmatism from the corneal thinning and a reduction in unaided acuity to 3/60 (this improved to 6/9 with a scleral contact lens). Later in the same year, stem cell failure followed on the temporal aspect of the left cornea. This led to repeated episodes of epithelial breakdown and in 2003, an episode of microbial keratitis that resolved with treatment.

Later in 2003, an episode of sclerokeratitis with uveitis developed in her right eye. The vasculitic screening was repeated, with the same results. She was immediately admitted for three pulses of methylprednisolone (1gram/day) and was recommenced on oral aciclovir and mycophenolate for three months. Adequate control of inflammation was achieved within the first week of treatment. In May 2004 she developed a left pneumococcal keratitis and endophthalmitis leading to loss of the eye. Currently the visual acuity is 6/6 in the right eye with scleral contact lens.

Case 27. (Illustrating SJS-MMP) Toxic epidermal necrolysis developed in an 18 month old girl after taking phenobarbital for a febrile convulsion in 1982. When first seen at Moorfields Eye Hospital in July 1984, the visual acuity in the right eye was 6/6 and she could not open the left eye because of photophobia. Examination under anaesthesia was deferred due to chronic chest problems. She was initially treated with topical lubricants and antibiotics. It was not until February 1985 that both eyes could be fully evaluated. There was extensive keratin in the lower fornices, linear scarring

adjacent to the upper lid margins (in the marginal sulcus) with entropion, and there were multiple metaplastic lashes. Corneal neovascularisation had reached the visual axis in the left eye, while the right eye had a clear visual axis with acuity 6/9.

Bilateral Trabut procedures were performed in 1985 to correct the upper lid position and bilateral cryoablation and electrolysis was carried out in 1988 to control ingrowing lashes. In 1992 the visual acuity was 6/12 in the right eye and 6/24 in the left eye and she was using lubricants every two hours and chloramphenicol ointment at night. Three years later, increased discomfort developed in relation to the irregular scarred and keratinised lid margins and she was given topical retinoic acid.

In 1995 a conjunctival biopsy showed IgM, IgG, C3 staining along the conjunctival base membrane, consistent with the development of SJS-MMP. From 1997, she suffered recurrent episodes of intense conjunctival inflammation and oral dapsone was commenced. In the same year, clinical signs of conjunctivalisation of the right cornea developed and impression cytology confirmed the diagnosis of stem cell deficiency. One year later, she developed more severely dry eyes and was using unpreserved artificial tears every few minutes. In 1998 she had a left submandibular autograft to the right temporal region to provide autologous lubrication for the right eye. This was successful to the extent that tears were overproduced, for which she had unsuccessful lacrimal drainage surgery, followed by reduction of the gland in January 2001. Despite appropriate medical and surgical treatment, her visual acuity slowly dropped to around 6/36 right eye and 6/60 left eye. Increased vascularisation and opacification of both corneas was noted.

The conjunctival inflammation had been controlled with Dapsone, but this was discontinued in 2000 because of an unacceptable level of anaemia. She was started on sulphapyridine as an alternative, but this drug was stopped when a rash developed. In 2002 and 2003 she suffered two flare-ups of inflammation that were controlled with short courses of oral prednisolone. In 2003 the inflammation was managed with topical fluorometholone. Currently her visual acuity is 6/60 unaided in the right eye, improving to 6/18 with a scleral contact lens, and counting fingers in the left eye in which she uses a scleral contact lens for comfort.