

New Treatment for Acute Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis

Stevens-Johnson syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) are moderate and severe variations of the same adverse reaction (usually to drugs or mycoplasma pneumonia) which result in blistering and sloughing of skin and mucosal membranes, and carry a high risk of mortality. With the seemingly unstoppable acute phase often lasting several weeks, SJS and TEN have always been a challenge to treat. Despite round-the-clock application of lubricant ointments, antibiotic and steroid drops, and daily lysis of adhesions using a glass rod, the majority of patients still end up with a lifetime of ocular problems. These sequelae range from mild dry eye, ongoing inflammation, scarred eyelids, entropion with trichiasis, photophobia, and decreased vision, to chronic corneal ulcers, corneal vascularization, total limbal deficiency, complete loss of tears, significant vision loss or blindness, constant severe pain, or complete loss of one or both eyes.

Now, a treatment appears to not only help bring a halt to the ocular reaction, but could prevent all or most of these sequelae from developing. This treatment involves the application of amniotic membrane to all eye and inner lid surfaces as soon as possible during the acute phase.

Ideally, the amniotic membrane should be applied to the eyes within the first several days of the reaction. But, due to its anti-inflammatory and growth factors, amniotic membrane transplantation can still be of value within the first 7-10 days (<14 days) of the onset of SJS/TEN.

Additional Resources and References

For details and illustrations on how to apply amniotic membrane and case reports of its effectiveness, please read the article entitled "Amniotic Membrane in the Surgical Management of Toxic Epidermal Necrolysis" from February 2002 *Ophthalmology*, which describes the successes of Dr. Thomas John of Loyola University Medical Center and Dr. Gary Foulks of the University of Pittsburgh Medical Center.

Additionally, emergency instructions on the handling and application of amniotic membrane can be obtained by calling: Dr. Thomas John, 708-429-2223 or 708-499-3939, or fax 708-499-9986.

Amniotic membrane transplantation has also shown effective results in treating chemical and thermal burns, non-traumatic corneal perforation, descemetocoeles, and deep ulcers [Refs 1, 2] and post-SJS problems, such as ocular surface reconstruction and lid reconstruction [Refs 3, 4, 5].

1. "Amniotic Membrane Grafts for Nontraumatic Corneal Perforations, Descemetocoeles, and Deep Ulcers", *Ophthalmology* 2002;109:694-703 by Solomon, Meller, Prabhasawat, John, Espana, Steuhl, Tseng.
2. "Amniotic Membrane Transplantation for Acute Chemical or Thermal Burns", *Ophthalmology* 2000;107:980-990 by Meller.
3. "Amniotic Membrane Transplantation for Ocular Surface Reconstruction in Stevens-Johnson syndrome", *Ophthalmology* 2000;107:975-979 by Honavar, Bansal, Sangwan, Rao.
4. "Amniotic Membrane Transplantation for Ocular Surface Reconstruction", *Bioscience Reports* Vol. 21, No. 4, Aug. 2001 by Tseng.
5. "Transplantation of Human Limbal Epithelium Cultivated on Amniotic Membrane for the Treatment of Severe Ocular Surface Disorders", *Ophthalmology* 2002;109:1285-1290 by Shimazaki, Aiba, Goto, Kato, Shimmura, Tsuboto.