

Update on the Management of Thyroid Eye Disease

Thyroid Eye Disease (TED) is an autoimmune orbital inflammatory disease that is typically associated with Graves hyperthyroidism in approximately 90% of cases. Conversely, an estimated 25-50% of patients with Graves hyperthyroidism will develop TED. TED causes eye pain and debilitating symptoms such as eye bulging, double vision, and changes in appearance. It can also cause potentially permanent vision-threatening disease caused by compressive optic neuropathy. Until 2020, the treatment of TED usually involved corticosteroids, orbital radiation, and/or orbital decompression surgery to correct the bulging of the eyes and/or save the patient's vision. In early 2020, TEPEZZA® (teprotumumab-trbw), became the first and only drug approved by the U.S. Food and Drug Administration (FDA) to treat Thyroid Eye Disease (TED). TEPEZZA® (teprotumumab-trbw) is now available for eligible patients at the University of Louisville Department of Ophthalmology and Visual Sciences. TEPEZZA is a fully human monoclonal antibody (mAb) and a targeted inhibitor of the insulin-like growth factor-1 receptor (IGF-1R). TEPEZZA is an IV (intravenous) treatment given once every three weeks for a total of eight infusions. I was fortunate enough to treat the first patient in the state of Kentucky with TEPEZZA® and the University of Louisville

oculoplastics service has successfully treated dozens of patients with excellent outcomes.

Two key studies, published in the New England Journal of Medicine, that led to the FDA approval of TEPEZZA found that significantly more patients treated with teprotumumab-trbw had a meaningful improvement in eye bulging (83%) and double vision (53%) compared to placebo. The study also demonstrated improvements in other signs and symptoms of TED, including eye pain, redness and swelling with an overall response rate of 78%.



Before (top) and after (bottom) treatment (Week 24) with TEPEZZA®

The majority of adverse events experienced with teprotumumab-trbw were graded as mild to moderate and were manageable in the trials, with few discontinuations or therapy interruptions. The most common adverse reactions (incidence $\geq 5\%$ and

greater than placebo) are muscle spasm, nausea, alopecia, diarrhea, fatigue, hyperglycemia, hearing impairment, dysgeusia, headache and dry skin. TEPEZZA is contraindicated in patients with preexisting inflammatory bowel disease or if they are pregnant or breastfeeding. In clinical trials, 10% of patients (two-thirds of whom had preexisting diabetes or impaired glucose tolerance) experienced hyperglycemia.

Patients who are living with TED or providers looking to refer their patients can contact University of Louisville Eye Specialists at 502-588-0550.

Christopher J. Compton, MD

Program Director
Vice Chair of Academic Affairs
Associate Professor
Oculofacial Plastic and Orbital Surgery
Department of Ophthalmology and Visual Sciences



To schedule an appointment at the Kentucky Lions Eye Center, please call 502-588-0588.

Providing the Highest Level of Care for your Patients

Eye Specialists of Louisville/University of Louisville Ophthalmology has been a center of excellence for clinical eye care, treating a broad range of eye disorders from pediatric eye diseases to age-related macular degeneration. As the largest multi-specialty team of ophthalmologists in Louisville, we are at the forefront of leading-edge treatments and research in subspecialties including Retina, Uveitis, Glaucoma, Oculoplastics, Pediatrics, Cornea, Neuro-Ophthalmology and Low Vision.

Office Locations:

Kentucky Lions Eye Center
University of Louisville
301 E. Muhammad Ali Blvd.
Louisville, KY 40202
Referring Physician Line
(502) 588-0588

The Springs Medical Center
6400 Dutchmans Parkway, Suite 310
Louisville, KY 40205
Referring Physician Line
(502) 588-0588

**Old Brownsboro Crossing
Medical Plaza II
(Pediatric Only)**
9880 Angies Way, Suite 330
Louisville, KY 40241
Referring Physician Line
(502) 588-0588

Meet the Doctors



HOSSIEN ASGHARI, MD

*Cornea & Refractive
Surgery*



**CHRISTOPHER
COMPTON, MD**

*Oculofacial Plastic
& Orbital Surgery*



THONG PHAM, MD

Neuro-Ophthalmology



**DOUGLAS SIGFERD,
MD**

Retina & Vitreous



CHARLES BARR, MD

Retina & Vitreous



**HENRY KAPLAN,
MD, FACS**

*Retina, Vitreous
and Uveitis*



**APARNA
RAMASUBRAMANIAN,
MD**

*Pediatrics / Ocular
Oncology*



ANDREA SMITH, OD

Low Vision / Optometry



RAHUL BHOLA, MD

*Pediatric Ophthalmology
& Adult Strabismus*



JUDITH MOHAY, MD

Glaucoma/Cataract



HARPAL SANDHU, MD

Retina & Vitreous



JOERN SOLTAU, MD

Glaucoma/Cataract



JEREMY CLARK, MD

*Oculofacial Plastic
& Orbital Surgery*



**WILLIAM NUNERY,
MD, FACS**

*Oculofacial Plastic
& Orbital Surgery*



**PATRICK SCOTT,
OD, PhD**

Optometry



**HARRY
STEPHENSON, MD**

*Comprehensive
Ophthalmology*