tions were considered unlikely to benefit the patient.

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Supported in part by the Washington and Northern Idaho Lions’ Sight Conservation Foundation.

The opinions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the US Army or the Department of Defense.

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**Confirmation by Magnetic Resonance Imaging of Optic Nerve Injury After Retrobulbar Anesthesia**

Worldwide, millions of retrobulbar injections are made each year to provide anesthesia for cataract surgery. No matter how carefully performed, this procedure carries an inherent risk of injury to the optic nerve. Accidental insertion of a needle into the optic nerve can have disastrous consequences, including optic nerve sheath hemorrhage, retrobulbar hemorrhage, central retinal artery occlusion, central retinal vein occlusion, Purtscher’s retinopathy, or brain-stem anesthesia. These complications usually produce dramatic signs, leaving the surgeon little doubt that an injury must have occurred during retrobulbar injection. We describe a patient who experienced severe loss of vision after cataract surgery, with nothing more than an afferent pupil defect detected during the eye examination the next day. Magnetic resonance (MR) imaging provided evidence for a traumatic injury to the optic nerve from the retrobulbar needle.

**Report of a Case.** A 72-year-old woman underwent extracapsular cataract extraction with implantation of a posterior chamber intraocular lens in the right eye. A 4-mL retrobulbar injection of 2% lidocaine hydrochloride and 0.375% bupivacaine hydrochloride was made with a 1/2-in sharp, 25-gauge needle using the Atkinson position. The injection seemed completely routine and provided excellent akinesia and anesthesia. Before surgery the best refracted visual acuity was 20/60-2. The day after surgery the best visual acuity was only counting fingers at 1 ft and a new right afferent pupil defect was present. Results of the eye examination were otherwise unremarkable. A fluorescein angiogram obtained 1 week after surgery was normal. Visual field testing showed severe global depression of retinal sensitivity (Figure 1).

With no explanation for the decreased visual acuity, we suspected an occult needlestick injury to the optic nerve from the retrobulbar injection. An MR scan showed gadolinium enhancement of the optic nerve sheath on serial coronal T1-weighted views through the orbit (Figure 2). On axial imaging this enhancement extended from the orbital apex to the globe, although no optic disc edema was observed on fundus examination. Precontrast T1-weighted coronal images with fat saturation showed no evidence of hemorrhage within the right optic nerve or nerve sheath (not illustrated). On T2-weighted images the ring of bright signal from cerebrospinal fluid in the subarachnoid space, visible around the normal left optic nerve, was absent from around the right optic nerve (Figure 2). Fluid within this space was probably lost by leakage through a perforation site in the right optic nerve sheath and by swelling of the optic nerve within its sheath.

The MR scan was obtained 2 weeks after cataract surgery; by this time the visual acuity of the patient had recovered to 20/200 OD. In view

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**Figure 1.** Left, Computed 30-2 visual field plot (Humphrey Instruments, San Leandro, Calif) of the right eye performed 1 week after surgery shows severe depression of retinal sensitivity. Right, The visual field deficit improved considerably by 8 weeks after surgery. MD indicates mean depression.
Figure 2. Section 1. Serial 4-mm, T-weighted, coronal magnetic resonance images through the orbits with fat saturation and gadolinium show enhancement of the right optic nerve sheath (arrows). Section 2. Axial 4-mm image demonstrates enhancement along the entire intracanal course of the optic nerve, with the most intense signal about 10 mm behind the globe. Section 3. Serial 4-mm, T-weighted, coronal views show absence in the right orbit of the bright signal from cerebrospinal fluid surrounding the optic nerve, which is plainly visible in the normal left orbit (arrows).
of the MR findings, we treated her empirically with prednisone, 80 mg/d, for 8 days. Eight weeks after surgery the visual acuity had improved to 20/40 OD, but a slight afferent pupil defect remained. The visual field showed striking improvement (Figure 1).

Comment. Optic nerve sheath enlargement has been shown by computed tomography after central retinal artery occlusion1 and after optic nerve sheath hemorrhage2 produced by needlestick injury to the optic nerve during retrobulbar anesthesia. In these previously reported cases the visual loss was severe and permanent. Our case provides the first MR images of traumatic optic neuropathy from retrobulbar anesthesia. Minimal enlargement of the optic nerve sheath profile was noted in our patient. Instead, we found gadolinium enhancement of the sheath from an inflammatory reaction induced by trauma, and loss of fluid in the subarachnoid space around the nerve. We think the optic nerve was skittered by the retrobulbar needle, missing vital vascular structures within the core of the nerve, but producing a traumatic optic neuropathy. This would explain the absence of findings on fundus examination and the eventual recovery of vision. Such injuries from retrobulbar injection are probably more common than realized and may account for some cases of transient unexplained visual loss after cataract extraction that might otherwise be attributed to cystoid macular edema or postoperative inflammation. Perhaps some cases thought to be anterior ischemic optic neuropathy occurring immediately following cataract surgery also represent examples of needlestick traumatic optic neuropathy. Finally, our case supports the view that the Atkinson position for retrobulbar anesthesia should be abandoned.3

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Primary Orbital Myxoid Liposarcoma Presenting as Orbital Pain

Primary liposarcomas occur only rarely in the orbit.1 Liposarcomas can be divided into four distinct histologic types: well differentiated, myxoid, round cell, and pleomorphic, with myxoid being the most common. Twenty-two cases of orbital liposarcoma have been reported in the literature, nine of which were myxoid.2-4 There are no characteristic clinical findings or diagnostic tests that are specific for this tumor. No predilections for sex, location within the orbit, or age have been described, although people with the myxoid type tend to be younger than those with other cell types. The most common presentations are painless proptosis of insidious onset and diplopia. There is only one report of painful proptosis as a primary symptom.4

Report of a Case. A 45-year-old woman reported the sudden onset of sharp pain and swelling in her medial left lower lid over a 2- to 3-day period. The swelling in her lower lid continued to progress slowly over several weeks, while her pain became dull and eventually abated. There was no history of thyroid disease, trauma, systemic malignant neoplasm, sinusitis, or infectious or inflammatory disease.

Visual acuity was 20/20 OU. A soft, tender, compressible mass was present in the medial left lower lid, and the overlying palpebral conjunctiva in this area had a bluish hue. The eyelids were otherwise normal with no retraction or erythema. There was no horizontal or vertical globe displacement, and Hertel exophthalmometry was 16 mm in both eyes. Retropulsion of the globes was normal. No bruit, thrill, pulsation, or change with Valsalva’s maneuver was observed. Goldmann visual fields were normal in both eyes. The findings of the remainder of the ocular examination were unremarkable.

Computed tomography in axial and coronal planes revealed an elongated, homogeneous, circumscribed mass in the extraconal orbital space that involved the inferior quadrant of the left orbit and the medial left lower lid (Figure 1, left). An A-scan orbital ultrasonographic examination revealed low internal reflectivity (Figure 1, right). The differential diagnosis included hemangiomia, hemangiopericytoma, schwannoma, fibrous histiocytoma, lymphangioma, lymphoproliferative disorders, and metastasis. Anterior orbitotomy with biopsy of the mass was performed, revealing a myxoid liposarcoma. The findings of a complete metastatic evaluation were negative. The patient underwent exenteration of the left orbit, which spared only the skin of the upper lid, with wide margins excised inferomedially in the area of the tumor.

Gross examination of the specimen revealed a gray, globular tumor coated with stringy mucus and measuring 5 × 4 × 3 mm (Figure 2, left). Hematoxylin-eosin sections showed a homogeneous spindle-cell tumor with a myxoid pattern (Figure 2, right). The individual cells were small with dark nuclei. In some areas, the cells resembled mature adipocytes. A prominent vascular pattern was found in scattered areas. There was no evidence of mitotic activity or necrosis.

Comment. Painless proptosis and diplopia are the most common symptoms of orbital liposarcoma at the patient’s initial visit. We describe a patient with painful swelling of acute onset with no associated exophthalmos. Although her pain remitted, tenderness to palpation persisted. Pain is more commonly associated with orbital inflammation, cellulitis, and varices. Thyroid orbitopathy rarely produces acute pain. Although not a characteristic finding, it is important to remember that neoplastic disease may also cause acute orbital pain. Pain in patients with orbital li-