CLINICAL IMAGES

A nail gun injury

Alisha Perkins · David A. Peak

A 36-year-old right-handed male construction worker presented 2 days after feeling a sudden pain in his right maxillary area while using a nail gun. At that time, he thought that the nail gun flew up and hit him in the face without discharging a nail. He noted only mild pain and a small abrasion on his right cheek. Over the subsequent days he developed progressively worse pain and swelling of his right maxilla and eye as well as a right visual field cut. He was seen by an ophthalmologist who referred the patient to our ED.

On exam the patient had significant chemosis and right-sided palpebral edema with moderate ptosis. Further examination demonstrated decreased range of motion of the right eye in all directions and a right nasal hemianopsia. A CT scan of the head revealed a nail penetrating through the maxillary sinus and orbit missing the optic nerve and ophthalmic arteries and extending into the right frontal lobe (Figs. 1, 2, 3 and 4). He was taken to the operating room and had the nail removed by neurosurgery and plastic surgery. Follow-up ophthalmology examination on postoperative day 2 demonstrated temporal macular choroidal rupture responsible for the nasal hemianopsia with pre-retinal fibrosis and hemorrhage causing macular traction and retinal folds with vision 20/160 (compared to 20/25 of the unaffected eye) and a complaint of a mild headache.

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Fig. 1 Lateral skull X-ray showing a nail traversing through the maxillary sinus to the skull base

Fig. 2 Sagittal head CT with the bone window showing the implanted nail

Fig. 3 Coronal head CT with the brain window showing the implanted nail

Fig. 4 Axial head CT with the brain window showing the nail in the right frontal lobe