

**Case of successful removal of piece of steel from the vitreous chamber /
by Charles A. Oliver.**

Contributors

Oliver, Charles A. 1853-1911.
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Publication/Creation

[Rochester, Minn.] : [American Ophthalmological Society], [1897]

Persistent URL

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CASE OF SUCCESSFUL REMOVAL OF PIECE OF STEEL FROM THE VITREOUS CHAMBER.*

BY CHARLES A. OLIVER, A. M., M. D.

PHILADELPHIA, PA.

Attending Surgeon to Wills' Eye Hospital: Ophthalmic Surgeon to the Philadelphia
Hospital, etc.

On the 13th of December, 1899, I saw W. B., aged forty-eight years, at my clinical service at Wills' Hospital. Forty-eight hours previously, while cutting a rivet, he had been struck in the left eye with a piece of steel. At the moment of injury, the organ was positioned in such a way as to allow the patient to gaze upward, backward and to the right of his head at the point from which the metallic chip was broken. He stated that he believed that the piece of steel was in the eye, as two X-ray pictures showing the presence of the foreign body in the eyeball had been made by Dr. William M. Sweet of this city.

The patient, who was in bed in the hospital wards when I first saw him, had had atropine instilled and iced compresses applied by the resident surgeon, Dr. Charles Lukens.

Examination showed an irregular linear wound of nearly one centimeter's length extending downwardly and outwardly in the sclerotic just beyond the upper inner ciliary region. The upper lip of the scleral wound was somewhat inverted. The overlying conjunctiva was ecchymotic. The cornea was clear. The pupil was dilated

* This brief article appeared in its original form on the twenty-fifth of May, 1900, number of the 'Bulletins de la Société de Médecine du Département du Nord', published in Lille, France. The present communication is its first appearance in English; mere mention of the case having been made in an X-ray discussion at the February, 1900 meeting of the Section on Ophthalmology of the College of Physicians of Philadelphia.

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to a six by seven millimeter's oval, with its long axis at ninety degrees. The iris was slightly inflamed, and there was a rather deep hypopyon. The crystalline lens was apparently uninjured, though there were a few faint, just commencing, cortical striae in the lower outer equatorial region, as in the other eye. The vitreous chamber was partly filled with blood and pigment-debris, not permitting any view of the fundus. Vision was reduced to the ability to see to count fingers at two meters' distance in a field which was markedly indentated to the upper nasal side.

The patient consenting to an immediate attempt for removal of the foreign body, he was etherized.

Based upon the clinical conditions seen—particularly the recentness of the injury, the position and the direction of the scleral cut, the relative positions of the lips of the wound, and the diminution of the visual field in the upper nasal side; in association with the assertions of the patient as to the angle of the receipt of the blow, and the presence of a foreign body in the eyeball as determined by the skiagraphs, I determined to introduce an electro-magnet through the scleral wound and make search for the supposed foreign body in the lower outer part of the vitreous chamber.

Employing a long, thin, curved electro-magnet of sufficient strength to lift a heavy bunch of keys in the manner indicated, I was immediately rewarded, without penetrating to any depth, with the impact of the foreign mass on the tip of the instrument. Finding that the chip of metal remained against the inner edge of the wound, I substituted a very broad and quite flat electro-magnet and carried it slightly into the eye at right angles to the length of the wound. I thus produced a broad, gaping rent, through which the piece of metal was delivered without the loss of a drop of vitreous humor.

The mass, which was steel, was eight millimeters long, five millimeters broad at its widest portion, and one millimeter through its thickest part. It weighed one-seventh of a gramme.

The evening of the day of operation I telephoned to Dr. Sweet, asking him to let me know in what part of the eyeball he had located the piece of metal. He replied "down and out," thus agreeing with my clinical findings, and proving that his method had independently given the localization of the mass.

In two days' time the wound was healed, and the vitreous opaci-

ties seemed somewhat lessened in number. The patient was allowed the liberty of the ward.

Three days later, vision equalled one-fortieth of normal and the vitreous haze had decreased. On the posterior capsule of the lens, up and in, there was a long, triangular area of dense white opacity, which was sharply outlined and apparently isolated.

Two days after this the man was discharged from the hospital as an out-patient.

One month after the accident the eye was quiet and vision remained the same as before.

At present writing, eleven months since the operation, the eye is comfortable and is functioning as well as ever.

Remarks: For several reasons I offer the case for publication. It shows the value of careful perimetric observations in such cases, the accuracy of the Sweet method of X-ray localization, and the advantages of immediate removal of such offensive and dangerous foreign materials as chips of steel from the interior of the eyeball.

