

A CASE OF TRAUMATIC PULSATING EXOPHTHALMOS.

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This patient was seen before the beginning of proptosis, and watched during the development of the symptoms, the ligation of the carotid and the subsequent recovery of ocular position and movement, but with optic atrophy.

The following case history is recorded because it was possible for me to observe the ocular symptoms from the beginning, to note the progress of the disease, see the changes in the fundus when the carotid artery was tied, follow the patient through brain edema and to report the end result, a retained, freely movable eyeball.

Mrs. M. H., married, aged 66, was first seen by her physician, Dr. J. P. O'Brien, September 8, 1914. Family history negative, personal history negative, having always been healthy, well nourished, active and cheerful.

For three weeks, she has been complaining of a severe toothache like pain over the right parietal region, extending from the occipital area behind to the frontal and nasal regions in front, at times this pain is paroxysmal and accompanied by nausea and vomiting. While down in the cellar about one month before the pain was first noticed, she quickly straightened up from a stooping position and struck her head in the right parietal region against a beam. The injury caused severe pain and dizziness for a few days.

Bowels regular, once or twice a day. Urine negative. Temperature 98.2. Lungs negative. Heart: first sound normal, second sound accentuated with ill defined systolic whiff; area of dullness normal, systolic pressure 155, diastolic 108, pulse 70 compressible, small, regular. Abdomen negative. Patellar reflex very slight, some disturbance of sensation below the knees with areas of anesthesia.

Two days later, September 10th, patient felt very weak with increased pain, so marked that she could not bear the pressure of her hands on her head, nausea, vomiting and very marked diz-

ziness. Pulse 50, large and soft. Treatment consisted of elimination by the bowels. Analgesics had no effect on the pain for five days.

On September 22nd, I first saw her. Right eye vision 20/15? and with +4.00 Type 1. Pupil 3.5 mm. regular, active to light and accommodation. No conjunctival or bulbar congestion. Disk clearly outlined, no fundus lesion.

Left eye vision 20/20? and with +4.00 Type 1. Pupil 3.5 mm. regular, active. The same as the right in detail.

Refraction: R. +1.00 = 20/15; L. +1.25 = 20/15; 6 degrees of hyperphoria.

On September 26th, was ordered
R + 1.00 \subset 1 degree prism base up
20/15 + 3.00 Type 1.

L. + 1.25 \subset 1 degree prism base down
20/15 + 3.00 Type 1.

All annoyance disappeared by wearing the glasses.

On November 20th, she complained of double vision which had been present for from seven to ten days, a red spot to the outer side of the right eye and a sense of orbital tightness.

Right eye vision 20/40, although the same correcting lens gave 20/15. Limited external motion of the globe, eye turned in 15 degrees with paresis of the external rectus. The bulbar conjunctiva injected, with superficial vessels standing out as an encircling zone about the cornea and extending over the entire globe into the cul-de-sac. The lower part of the orbit was full, the upper, however, was normal. By the Hertel exophthalmometer, the eye was found proptosed 15 mm. the left 10.5 mm. Pupil 3.5 mm. regular, active to light and accommodation. Media clear. Disc and retina show large veins and arteries, with faint congestion. No in-

distinctness of nerve outline. Definite pulsation of the eyeball with distinct bruit over the globe extending to the right temporal region. The patient was told of the condition and advised operation. While waiting, she was kept in bed and given potassium iodide.

On December 3rd, 1914, the eye was much worse. Exophthalmometer, protrusion 22 mm. Marked chemosis of the lower half of the eyeball with intense congestion of the entire conjunctiva. Complete right sixth nerve paralysis, as well as partial third nerve involvement. Pupil 4 mm. regular, reacting slowly, disk edges blurry, vessel changes more marked, veins and arteries fuller, retinal congestion definite.

Under ether, Dr. A. W. Elting exposed the common, external and internal carotids, on the right side. The right eye was kept under constant observation with an electric ophthalmoscope; first to notice the effect when the common carotid was compressed, and second the result when the internal carotid was occluded. As both stopped pulsation of globe and fundus vessels, the internal carotid was ligated in two places with silk. The immediate result was the blanching of the fundus and a 5 mm. reduction in the proptosis, being with the exophthalmometer 17 mm.

The next day, December 4th, 1914, exophthalmometer 21 mm. with marked globe pulsation, edema of lids and conjunctiva and nerve head.

Three days after the operation, pupil was 5 mm. immobile. Patient was semicomatose with partial leftsided hemiplegia which, however, cleared later in the day. At this time, the patient was in a very critical condition, presenting evidence of considerable brain edema. On the tenth day following operation, the proptosis reached its greatest intensity, 23 mm., the disk edges were blurry but not edematous, and the globe pulsation marked. From the minute of operation, the eyelids

were strapped for protection of the cornea, the exophthalmos being so great that a keratitis was imminent especially as there was complete loss of globe motion and corneal sensation.

On the seventeenth day, the patient left the hospital. Exophthalmometer 22 mm., pupil 7 mm.

Twenty-six days after the operation, all pulsation of the globe disappeared and with it the bruit. Neither bruit nor pulsation has been present since. On the thirtieth day, motion began to return in the vertical direction. By exophthalmometer 19 mm. of proptosis. On the forty-fourth day, the globe protruded 17 mm. with free motion except outward, the sixth nerve remaining paralyzed. Pupil 6.5 mm., disk clearly outlined with beginning atrophy. On the fifty-first day, the eye was freely movable in all directions, bulging 15 mm. Complete optic atrophy.

Ninety-sixth day after operation the right pupil was 7 mm. immobile. In the macular region there is an irregular area of absorbed pigment, thruout the fundus a very marked narrowing of all the blood vessels. Proptosis 12 mm.

The left eye has remained as first noticed.

Some may wonder why the eyelids were not stitched together to protect the cornea. But had that procedure been followed, it would not have been possible to record the exophthalmos progress or retrogression, or to have detailed the fundus findings.

This case presents many points of interest; chief among which is the early diagnosis, for as far as I am able to find, no other reporter speaks of so prompt a recognition of the first eye symptoms; the excellent operative recovery following the very alarming circulatory symptoms on the third day after the operation. The complete recovery of eyeball motion and the preservation of the cornea are other noteworthy details.