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EVISCERATION OF THE EYEBALL.

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*EVISCERATION OF THE
EYEBALL.**

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THIS operation must not be confounded with abscission, although both are somewhat similar in character. The latter operation has been abandoned by the majority of ophthalmic surgeons on account of its risk.

Evisceration consists in first excising the cornea and thoroughly removing the contents of the globe, and replacing the vitreous with a glass globe. Abscission of the cornea, as suggested by the older Critchett, was, probably, the best of a dangerous operation. In it no attempt was made toward emptying the contents of the globe.

We are indebted to three English surgeons for bringing evisceration prominently before the notice of the profession practically. Mules's (of Manchester) first operation was performed in October, 1884. Brudenell Carter, who modified the abscission operation of Critchett some years ago, is now one of evisceration's most ardent advocates, while Bickerton, of Liverpool, performs it preferably to enucleation. Frölich was the first surgeon to perform the evisceration. This he carried out in 1881, and named it "excochleation." Muldon and Graefe carried on their observations in 1884.

* Abstract of a paper read before the American Medical Association, Ophthalmic Section, held in Baltimore, May 7, 1895.

Cubanton followed next with a series of experiments. I shall not review the literature on the subject, as it has been done by my friend, Dr. G. Oram Ring, in a very recent article* on the subject. My remarks shall be limited to my personal experience with some cases.

In 1885 I performed the operation twice in the Germantown Hospital, but the reaction was so great, including tremendous swelling of the orbital tissue and eyelids, great pain, and an elevation of temperature (105° in one patient, 105.5° in a second), that I felt discretion was the better practice and removed both glass globes, later on removing the small stumps of the atrophied eyeballs. During the summer of 1893, while in Liverpool, Mr. Bickerton brought to my notice three patients upon whom he had recently operated. The cosmetic effect was so beautiful that I again became deeply interested, and gathered renewed courage at his success. I also had the opportunity of witnessing the operations at the Liverpool Infirmary by Mr. Bickerton, and also the after-treatment. To see a skilled operator carrying out the technique of an operation is infinitely better than to follow the details of a written description, be it ever so clear and concise.

The third patient† upon whom I performed this operation, June 29, 1894, at the Medico-Chirurgical Hospital, was a young Assinaboin Indian, from Montana, now at the Carlisle Indian School. He was brought to the hospital by Dr. Montezuma to have the eyeball enucleated on account of pain and much discomfort. As near as we could get at the history of the

* "Evisceration of the Eyeball," reported in the University Medical Magazine, April, 1895.

† Reported in the Codex Medicus, Philadelphia, November, 1894.

loss of the eye, it was this: About three years previously, while on the plains, an inflammation of the left eye took place, which gradually progressed to an ulceration of the cornea and, finally, to complete destruction of this part of the eye. Instead of removing the eyeball, a Mules operation was performed, under ether. The details of the operation were carried out without complication and the patient put to bed.

The orbit was examined after twenty-four hours; no untoward symptoms were present excepting the slight swelling of the upper eyelid. Toward evening the eyeball became somewhat painful, and the patient did not rest well during the night. Temperature, 102° F. The next day the temperature fell to 99° F. More swelling of the eyeballs appeared, with considerable chemosis of the conjunctive, but no discharge of pus. Chloral and a bromide were given to quiet the pain, and hot fermentations were applied to the eyelids. On the third day the conjunctiva became very oedematous and protruded between the eyelids; otherwise the patient's condition was about the same as before. The internal treatment at this time was: Hydrarg. bichlor., gr. $\frac{1}{32}$; potass. bromidi, gr. x; three times daily. To the protruding conjunctiva pressure bandages were applied, which restricted the protrusion. The temperature fluctuated about the 99° line until July 7th, when it fell to normal, and the various inflammatory conditions subsided. At the end of the week I removed the stitches from the conjunctiva. The sclerotic swelling did not subside for ten days, when the pain disappeared, and at no time during his residence at the hospital did it return.

The operation was entirely successful, affording a beautiful support for the artificial eye, which was adjusted July 18th. The artificial eye stood out full and prominent with almost perfect movement,—a decided improvement over the results of the old operation of enucleation.

Case 3. Operation performed October 26, 1894, on a young woman,—a patient of Dr. Frutchey. She had been wearing an artificial eye over the blind eye for several years; the result was that she had symptoms of sympathetic irritation and pain in the partially-atrophied eyeball. The operation was carried out in detail as above described. Upon removing the cicatricial cornea I found the scleral cavity filled with a bony mass, round, and shaped exactly like a small acorn. This growth of bone was also a very important factor in the causation of pain. The bone was growing larger and the sclerotic coat was restricting its growth; hence the pain. The bone was removed without difficulty and given to Professor Laplace for microscopical examination. The patient had no untoward symptoms; the temperature ran up to 101° the first day after the operation, and on the third to 1° above the normal line, but no visible change followed, the patient leaving the hospital in twelve days. In this patient there was no reaction, no swelling of the eyelids, and the conjunctiva but very slightly chemotic. The artificial eye stands out on a level with its neighbor. The movement is perfect, falling but little short of normal.

Case 4. Young woman, aged 22 years, admitted to the hospital on account of an irritable left eye, staphyloma of the cornea,—

eye useless. On account of the repulsive appearance of the eyeball the patient desired its removal so as to replace it with an artificial eye.

The operation was performed under the same antiseptic precautions, with little or no reaction, no swelling of the eyelid and only a suspicion of œdema of the eyelid. Owing to a difficulty in matching the right in color the artificial eye is not quite large enough. The movement is exceedingly good.

Case 5. Male, aged 33 years. In September of 1884 he was struck in the left eye by a brass spring, puncturing the sclerotic, from which exuded a bead of vitreous. When brought to the hospital the vitreous was snipped off and the scleral wound was closed by stitching over it the conjunctiva. The eye became involved in a general uveitis, with a result of total loss of vision and slight shrinkage of the eyeball. I saw this patient about once a year, and during the ten years no inflammatory change took place in the eyeball. The hyperopia was fully corrected in the right eye and glasses worn. In January 13, 1892, the following note was made in my case-book: The sclerotic scar visible; through the conjunctiva no perception of light; total posterior synechia; lens cataractous; no perception of light. Tension, —1; eyeball manifestly shrunken; no pain or irritation. On December 26, 1894, the patient came to see me on account of considerable congestion of the left eye and slight pain on pressure. The result of the examination revealed sympathetic irritation. The patient was placed on active mercurial treatment, which reduced the active symptoms,—both eyes became perfectly quiet.

Having had this warning I advised the evisceration operation, which was performed February 2, 1895, at the Medico-Chirurgical Hospital. The operation was witnessed by Drs. Risley and Carpenter,—two members of the association. The case made a very good recovery, with little or no reaction; the only defect is a slight gaping of the conjunctiva and sclera, owing to the central stitches of both conjunctiva and sclera giving way and allowing the glass globe to be visible. The patient is, however, wearing an artificial eye, and no inconvenience has become manifest up to the present writing.

Case 6. Child, female, aged 11 years. Staphyloma of the cornea of the left eye, due to an ulcer of the cornea, three years previously; since then the cornea has developed into a very large staphyloma. The operation was performed May 3, 1895; at the present writing the patient is doing well. The details of the operation are carried out under ether. The eye is thoroughly irrigated with a lotion, which I call formula 1 to designate it from almost the same formula for sterilizing instruments. The eyelids are separated with the ophthalmostat. The conjunctiva is dissected from its corneoscleral attachment back to about the equator of the eyeball, the muscle not being interfered with; then the cornea is excised,—this is best done with a large Beer knife, as if performing a flap-operation for cataract,—the lower half of the cornea is removed with curved scissors, and the contents of the globe are taken out with a small scoop devised for the purpose. Great care is necessary to remove the ciliary body and choroid and the head of the optic nerve, leaving the clean, white

sclera. Mr. Carter has devised a rubber bulb, which is inserted into the scleral cavity and inflated with air to produce pressure on the central artery to prevent hæmorrhage. As this application has not been a success with me I pack the scleral cavity with sterilized cotton; after waiting a few minutes this is removed, and the contents of the scleral cavity are again thoroughly irrigated with a hot, antiseptic fluid. A sterilized glass globe, which is best suited to the case, is then inserted with a specially-devised instrument; the sclera is split vertically so that the edges may be drawn together and held by stitches of fine catgut, completely hiding the glass ball. The orbit is again thoroughly irrigated with the hot solution and the socket packed with sterilized cotton, over which is bound a sterilized bandage, and the patient is put to bed.

Formula 1.

Irrigating Fluid.

Hydrarg. bichlor.,	.	.	gr. $\frac{1}{50}$.
Zinci sulphocarbolatis,	.	.	gr. xxx.
Aq. menth. pip.,	.	.	℥xj.
Aq. camph.,	.	.	
Aq. destill.,	.	.	āā ℥xj.

M. ft. sol.

The same formula is used for instruments, without the hydrargyrum.

In case 5, instead of using black silk to suture the sclerotic coat, sterilized catgut was used. Whether the knot became untied or whether absorption took place too rapidly, causing gaping of the wound and thus allowing the glass ball to press upon the conjunctival suture and cause it to tear, I am unable to say; but, from whatever cause, the glass ball is visible.

The patient is now wearing an artificial eye without any inconvenience.

When the operation is performed under strict antiseptic precautions very little or no reaction follows, and the result, as Mr. Mules states, "are not as disturbing to the normal relation of the parts outside of the sclera as in enucleation." Dubanton and Graefe arrive at these conclusions: "That the procedure equaled in value enucleation in sympathetic disease, was safer as regards danger of purulent meningitis, can be performed in panophthalmitis, and that, whenever done, a better stump is always secured."

If we have in evisceration a method equally as safe as in enucleation, we certainly have in addition the advantage of giving better support to an artificial eye, getting rid of the sinister stare, the enophthalmus, and more perimetric rotation, with no disagreeable muco-purulent discharge so common after enucleation.

