

Burnett (S.M.)

Some Exceptional features





# Some Exceptional Features in Cataract Extraction.

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Thanks to a perfected technique and aseptic conditions, the history of a cataract extraction has become, like that of happy nations, monotonously dull. A slight iritis, an occasional tardiness in healing, confinement in bed for one day or three at most, to the room for a week, and to the house for ten days or two weeks, is, in the general run of cases, all there is to record. Only in about 10 or 12 per cent. of cases are there more serious complications to chronicle, and in from 0.5 to 5 per cent.  $V=O$  is appended as finishing the history of the case.

And yet it cannot be said that the operation of cataract extraction is perfected, and that nothing more remains to be done. That in a certain percentage only of cases vision is made  $\frac{5}{6}$ , is not sufficient to satisfy the demands of science; it requires, moreover, that " $V=O$ " be eliminated.

Again, a large number of operators—principally of the





German school—still insist that a mutilation of the iris is necessary to the surest success. The capsule of the lens remains always as a possible cause of future trouble, and in at least 50 per cent. of the cases the occasion of a secondary operation with its attendant risks, if the most nearly perfect results are to be attained.

*The ideal operation for cataract is an extraction of the lens in its capsule without loss of vitreous through an intact pupil.*

The presence of the capsule in the eye after the removal of the opaque lens is a more potent factor in post-operative troubles than its simple structure would indicate as possible. In fact, we would be safe in referring 90 per cent. of the inflammatory troubles, in the iris particularly, which occur after operation, to the capsule. In the first place, it is almost impossible to entirely empty the capsule of soft lens substance. The remaining corticalis swells, falls into the anterior chamber, except perhaps in some cases, where peripheral capsulotomy is done, and becomes a source of irritation. Bits of the transparent capsule may get into the wound and retard healing, thus making possible the entrance of germs to the interior of the eye. That the presence of the capsule plays a more important part in the production of post-operative inflammation than incarceration of the iris in the wound, is shown by the fact that in those cases where the lens comes out in the capsule with a loss of vitreous, and where there is almost of necessity a mass of iris left in the wound, the healing, as a rule, takes place with but little inflammatory re-action.

I will not here go into a discussion of the merits of the "simple" and "combined" operation. The choice between the two has come now to be a matter of judgment for each individual operator, and the confidence he has in his skill for the particular operation. For my own part, I have done the simple operation without iridectomy ever since the introduction of cocaine. I never voluntarily made an iridectomy in any case. If the iris is difficult to replace (which I usually effect by rubbing with the upper lid), or if it shows a tendency to prolapse, I make the iridectomy after the

expulsion of the lens, which is as easy then as before its delivery. The size of the cataract I have found no obstacle in extraction through an intact pupil. A large amount of soft corticalis would lead me, if anything would, to an iridectomy.

Extraction of the lens in its capsules has been followed, I believe, as a fixed practice, by only one operator—Pagentecher, of Wiesbaden. Others have given it a tentative trial, but finally abandoned it.

As a matter of necessity, we must, on occasion, however, take the lens away in its capsule if we are to extract it at all. This is notably the case where the lens is dislocated, either wholly or partially. Even where the lens is floating in the posterior chamber, it is possible to extract it successfully without the loss of much vitreous. Two such cases I have reported in a paper published in Knapp's *Archives of Ophthalmology*.\*

There are other indications also for an attempt to extract in the capsule and through an intact pupil. Those I shall refer to now particularly are evident thickening and toughness of the capsule, and almost all forms of degenerated cataract.

In the latter, there is almost invariably a fluidity of the vitreous, and it is much easier to handle this with an intact iris than when an iridectomy is made; and besides, in most of these cases, the zonula is very weak, if not already broken.

In some of these conditions, particularly in dislocation of the lens, it is advised, in most of the text-books, to remove the lens by means of a spoon or scoop. This is unpardonably bad surgery. *A surgeon is never justified in introducing an instrument into the eye for the removal of a cataract.* A proper manipulation will succeed in delivering a lens in every case where delivery is possible. The introduction of a scoop or any other instrument into the eye only increases the dangers, both present and prospective.

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\* Contributions to Clinical Ophthalmology.—*Knapp's Archives*, Nos. 2 and 3, 1892.



It has been my exceptional good fortune to make lately three extractions of cataract in the capsule without the loss of any vitreous through an intact pupil, followed by perfect healing, thus realizing the ideally perfect extraction.

A short history of these cases is as follows:

CASE I.—Mr. R. W., aged 68. Right eye, he states, began to fail about two years ago. There is now a complete opacity of the lens in that eye; the capsule looks smooth, but the lens is evidently hard. Anterior chamber deep, pupil normal, and responds well to light. Tension normal. Extraction on April 13th, 1895. In making the incision, I noticed some movement on the part of the lens, and this was further apparent when I came to make the capsulotomy. The capsule was tough, and the whole lens yielded to the pressure of the cystotome. I knew from this that I had to deal with a ruptured zonula, and resolved to extract in the capsule. I told my assistant, who was holding the upper lid (I never use a speculum), to be prepared to drop the lid as soon as the lens was delivered, expecting a gush of vitreous to follow its exit. The fixation forceps were removed, and with the back of the spoon alone I made gentle pressure backwards and upwards, while the patient looked strongly downward. The lens soon became engaged in the pupil and wound. The spoon was then made to follow, with gradually decreasing pressure, the lens as it passed out of the wound, and as soon as it was delivered the upper lid was dropped. Not a drop of vitreous escaped. When the eye was opened a few seconds later, it was found that the iris has returned almost entirely, and a little gentle rubbing of the lids was sufficient to make its reëtrance complete, with a round and perfectly black pupil. The wound was nicely coapted. As there is nothing left to guard the vitreous but the delicate hyaloid membrane, I deem it wise to be unusually careful of such cases for the first forty-eight hours. I enjoin perfect quiet, and use Ring's mask as a protector, to be constantly worn for the first three days and at night for a week or more. I am satisfied that many prolapses of the iris are due to self-inflicted traumatism on the part of the patient. The patient left the bed on the second day, and resumed it thereafter only for sleep at night. There was absolutely no pain, and nothing more than a slight hyperæmia of the iris, due to the stretching. On the fourth day, the pupil responded promptly to atropine, and the convalescence was uninterrupted. Already on the 29th, with + 10 S. + 3.180

$V = \frac{5}{18}$ . The corneal astigmatism was 5.5 D, and, as is always the case after cataract operation, contrary to the rule. When the corneal astigmatism comes down to its normal degree, as it will in the course of three months, his vision will undoubtedly be  $\frac{5}{8}$ .

CASE II.—M. K., a colored woman, aged 55, had lost the right eye from some inflammatory trouble, which left an almost total lucoma of the cornea, many years ago. She reported, when admitted to my clinic at the Emergency Hospital on April 26, 1895, that the left eye had begun to fail only two or three years ago. This, however, seems impossible, for the cataract which was present in that eye was evidently old, or at least showed such degeneration as we seldom find except in very hypermature cataracts. The lens was evidently shrunken, and the capsule was thrown into quite prominent folds, radiating from the center. The anterior chamber was deep and the iris was slightly tremulous. The pupil responded well to light, and the projection was fair. The indications for extraction in the capsule were here imperative, and accordingly I determined to attempt its removal in the manner I have indicated in the paper before referred to. The lid being held by an assistant, the conjuncture is grasped by the fixation forceps at some little distance behind the lower corneal margin, and as soon as the counter-puncture is effected considerable pressure is made with the forceps backward and towards the center of the eyeball. As the section progresses upwards this pressure is continued or increased slightly in order to tilt the lens forwards against the iris and hold it there. When the section is completed, the lens should be engaged in the pupil, and an increase of the same pressure is sufficient to deliver it. In this case, the lens, being somewhat shrunken and apparently totally detached at its upper portion, came promptly against the iris under the backward pressure with the forceps, and bulged it forward so that the knife, as it passed upward, cut a slice out of the iris about midway between the sphincter and the base. When the section was completed the lens had already entered the pupil, and a gentle increase of pressure caused it to pass through and out of the wound, the pressure being lightened gradually as the lens was slowly extruded. There was no escape of vitreous, and a little gentle rubbing with the lid reduced the prolapsed iris. The wound coapted nicely. On opening the eye on the third day, a complete healing was found, and there was nothing to retard the progress of a perfect



convalescence. On examination with the ophthalmoscope, an extensive choroiditis was discovered, which made anything like good vision impossible, but she was able to get about alone and wait upon herself, which was an immense gain over helpless blindness. This choroiditis probably explains the origin and character of the cataract. The inflammation of the uveal tract led to malnutrition of the lens and its subsequent degeneration. There is usually also, in such cases, a fluidity of the vitreous which makes the absence of its prolapse in this case the more remarkable.

CASE III.—B. A., a colored woman, 60 years of age, was admitted to my clinic October 1st, 1894, with complete cataract of the left eye. There was no satisfactory history of the case, nor were we able to find out how long the cataract had existed. The lens was milk-white, which was suspicious of *cataracta morgagni*, but there was no other appearance of degeneration. The iris was not tremulous, nor was there other evidence of a ruptured zonula or displacement of the lens. In making the section, however, it became evident that the zonula was weak, and on completion a slight pressure was sufficient to deliver the lens in its capsule through the intact pupil. No vitreous escaped. It was seen then that the capsule contained a very small nucleus and a large quantity of fluid. It rolled about in the palm of the hand like a globule of mercury. The iris returned without difficulty, and the healing went on without accident as in the other cases, and the ultimate vision was good. Illiteracy of the patient prevented a thorough testing of visual acuteness.

These cases show the brilliant side of cataract extraction where art seems to have triumphed completely over nature but there is, alas! another side which shows how futile may become our best endeavors, and which should impress upon us the fact that the last word has not yet been said in regard to the management of this most important operation.

That an operation has been smoothly performed and under the most approved modern aseptic conditions, is not an absolute guarantee that all will go well. That suppurations are rare—much rarer than before the introduction of aseptic methods—is true; but we have not, for all that, entirely abolished the possibility of infection. The danger does not seem to be passed when we have an apparently



perfect healing of the wound, and the question of auto-infection is not by any means settled one way or the other. Of course, in the vast majority of cases, when the third or fourth day has passed without any serious symptoms, and the wound seems well coapted, we consider that we are "out of the woods," and are possessed of a sense of security as to the final issue. But occasionally we have an experience which shatters our faith in our assumed accurate knowledge of all the conditions attending the course of healing and renders our humiliation extreme. The following is such an instance:

CASE IV.—W. T., white, aged 68. Had been operated on by me at Providence Hospital six years ago for cataract of the left eye with a good result—in spite of an incarceration of the iris in the wound due, undoubtedly, to his restlessness. He was a very bad subject, and hard to control. When admitted to my clinic at the Emergency Hospital on April 2d, 1895, the cataract in the right eye was ripe, the pupil good, with all the indications for a successful operation. In spite of his want of control of himself, the operation was completed without any accident. The soft corticalis was removed without difficulty and the iris reëntered promptly, leaving a black round pupil. On the fourth day a moderate iritis set in. The lips of the wound seemed well coapted, but the anterior chamber was still shallow, indicating that there was a portion of the incision which had not entirely healed. The anterior chamber was restored in about a week, and in ten days the iritis had subsided, leaving three or four slight synechia. At the end of the sixteenth day after the operation, he was discharged. There was at that time no pain and but a slight injection of the conjunctiva around the base of the cornea. A week after his discharge, he returned with the pupil and the lower third of the anterior chamber filled with pus, the edges of the wound yellow, very pronounced chemosis of the conjunctiva, and much pain. He stated that this condition had developed suddenly two days before—that is, three weeks after the operation. He knew no cause for it, he persisted in averring, and stated that he had simply stayed quietly about the house. His general unreliability leads us to doubt this, and the probabilities are that he engaged in excesses of some kind. He was taken back in the hospital and treated rigorously. The edges of the wound were cauterized with

formaline of half strength and a weaker solution (1 to 1000) used as a cleanser every three hours. Nevertheless, the cornea slowly melted away and a panophthalmitis set up, which ended in an abscess, which perforated behind the cornea on the outer side. The stump was removed as soon as the acute symptoms had subsided. On opening the eye after enucleation, it was found filled with pus. The healing was prompt, and he was discharged a week later.

This is the second eye I have lost from panophthalmitis after cataract extraction since the introduction of strict asepsis. The first one, however, could be referred to a removal of the bandage by the patient the first night after the operation, which gave opportunity for infection, and which promptly showed its effects on the second day. But this second one is exceptional in my own experience, and my researches fail to show any other (though, of course, there may be such on record,) in which so long a time as three weeks has elapsed before suppuration showed itself. In the pre-aseptic days, I had one case in which suppuration occurred a week after the operation, and after the patient was up and about. In this instance, it followed an exposure to cold in severe weather in an unwarmed water-closet.

When, then, can we consider ourselves absolutely safe after cataract extraction? Wherein is the danger, and where does the enemy hide himself? It is certain that the germs got into the eye from some quarter. Did they enter at the time of the operation and remain quiet for three weeks? Did they get in through some open space in the wound which had not healed promptly, or were they carried there by the circulation? But whatever may be the explanation, the lesson we are to learn is that our precautions before, during, and after the operation, are to be increased in vigor if we are to eliminate completely the danger of suppuration after cataract extraction.

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