Dr. De Wecker's cataract operation with the statistical statement of the results / by Dr. Masselon ; translated by H. Macnaughton Jones.

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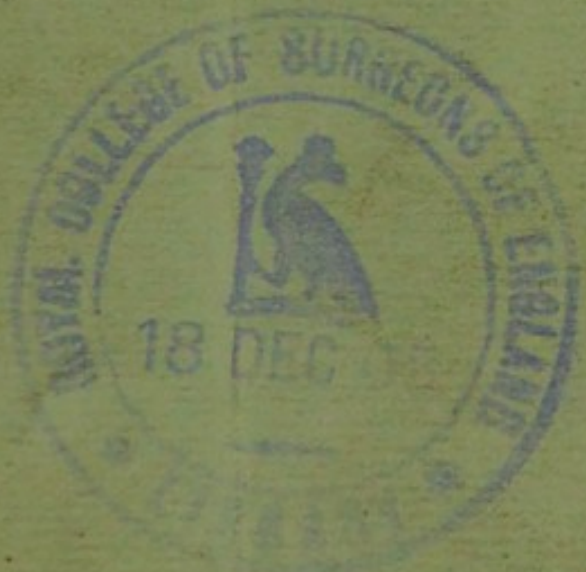
CATARACT OPERATION.



With the Translator's Compliments.

DR. DE WECKER'S

CATARACT OPERATION.

WITH THE STATISTICAL

STATEMENT OF THE RESULTS.

By DR. MASSELON.

TRANSLATED BY

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DR. DE WECKER'S

CATARACT OPERATION.

INTRODUCTORY REMARKS.

ANY one who has perused the remarks of Dr. De Wecker in his Ophthalmic Report for 1875 must have been greatly interested in the peripheral flap operation for nuclear cataract which he then advocated. The peripheral flap comprises the upper third of the cornea which is detached very exactly from the sclerotic, presenting a height of 4 mm., and adapts itself with an exactness as perfect as we might hope to obtain with a Græfian section. This flap, 4 mm. in height, gives, deduction being made for the thickness of the cornea, an interior opening of 9·32 mm. This opening, Dr. De Wecker asserts, permits of the exit of the largest cataract, or one 8·5 mm. in height and 4 mm. in thickness, without any great bruising of the parts. Dr. Wecker, laying great importance on the preservation of a circular pupil and the avoidance of mutilation of the iris, and the chance of sympathetic changes, operated by this peripheral section without

disturbing the iris, employing eserine to prevent the prolapse which otherwise might occur. The instruments required are, a knife double the width of that of Græfe, a cystotome, and a small vulcanite spatula. The steps of the operation are briefly as follows: if the right eye be the one to be operated on, the operator, standing or sitting behind the patient, raises the eyelid with the forefinger of his left hand, and an assistant fixes the eye with a forceps. If it be the left eye, the operator coming in front of the patient, the assistant raises the eyelid and the operator fixes the eye with a forceps held in the left hand. He next detaches the upper third of the cornea from its insertion into the sclerotic. Fixation is abandoned when the incision is made and the flap is being completed. So as to avoid the bleeding which would interfere with the extraction of the crystalline and the introduction of the cystotome, the section is completed without forming the conjunctival flap, the cutting edge of the knife being directed slightly forwards. The second step in the operation consists in opening the capsule with the cystotome. The operator now raises the upper eyelid and directs the patient to look a little downwards; he then exercises a gentle pressure on the corresponding lip of the wound, at the same time that, with the help of the lower eyelid applied against the lower part of the cornea, he pushes the crystalline upwards. The pupil is cleansed completely after the evacuation of the lens, and then, if it so requires, the iris is reduced by the spatula, which is gently inserted into the anterior chamber between the lips of the wound, pushing the iris softly before it. Before the patient lies down eserine is instilled into the eye, and, again, when the operation is completed and the

pupil clear and circular, eserine is employed. The vision of the patient is next examined, and then a third instillation of eserine is used, and the eye put up.

With these preliminary observations, culled from last year's Report, I venture to give the results of the operation and the remarks as published by Dr. Masselon, *chef de clinique*, in the recent Report for 1876.

CATARACTS,

During the year 1876, 260 operations for cataract were performed at the Clinique. These operations may be classed as follows :—

Simple Cataracts . . .	222
Complicated „ . . .	15
Traumatic „ . . .	1
Congenital „ . . .	4
Zonular „ . . .	1
Secondary „ . . .	17

Not including the congenital cataracts and the zonular one, for which "discision" has been used, the others, with the exception of the secondary ones, have been operated upon by extraction. The secondary cataracts have all been dealt with by the "capsulotome," except in one case, in which a very light film existed, for which discision was resorted to.

Simple Cataracts—222.

Except in four cases, in which simple linear extraction has been employed, the other simple cataracts have been extracted sometimes by the peripheral flap method, sometimes by that of De Græfe. These 218 cataracts are thus found divided exactly into two equal groups of 109 each, so that De Græfe's method has been used precisely the same number of times as extraction by the peripheral flap.

We may dispose at once of the simple linear extractions by saying that we have not had a single accident. In one case the vision equalled 2-5ths, in another, 1-10th (an old choroidal atrophy existed, localised towards the

macula). The other two cases occurred in young persons, and the vision has not yet been determined. The 109 cases of cataract operated upon by De Græfe's method have furnished the following results :—

First, as regards the vision.

With	13	persons	operated on . .	S = 1
„	16	„	„ . .	S = 2-3rds.
„	17	„	„ . .	S = 1-half.
„	22	„	„ . .	S = 2-5ths.
„	7	„	„ . .	S = 2-7ths.
„	12	„	„ . .	S = 1-5th.
„	4	„	„ . .	S = 1-10th.

Eleven persons operated on have not yet come to choose their glasses, and the vision has not been shown in the above table. In seven cases a closure of the pupil has occurred ; of these patients the greater number had already successfully undergone iridotomy. We have not had a single case of suppuration. Once only there was an issue of a small quantity of vitreous humour at the moment of the escape of the lens. We now come to 109 cases of cataracts extracted by the peripheral flap process. The following, beginning with the vision, are the results obtained :—

With	19	persons	operated on . .	S = 1
„	8	„	„ . .	S = 2-3rds.
„	20	„	„ . .	S = 1-half.
„	13	„	„ . .	S = 2-5ths.
„	14	„	„ . .	S = 2-7ths.
„	12	„	„ . .	S = 1-5th.
„	9	„	„ . .	S = 1-10th.

The vision of eight persons operated on does not appear in this table, as they have not yet returned to the hospital for their glasses. Closure of the pupil was

noticed in three cases only; and with three patients, suppuration of the cornea, which in one case was only partial, has occurred. The escape of the vitreous humour has taken place three times. With eleven patients we have had to record in variable degrees a prolapse, or an adhesion of the iris.

Before entering on a discussion relative to the results obtained by these two different methods, and laying stress on an important modification applicable to extraction by the peripheral flap, we shall pause one moment in the choice that it is advisable to make between these two essentially distinct modes of procedure. In an important work, "History of Cataract," which M. Magnus has just published, our eminent *confrère* ends the chapter relating to the history of flap extraction with this remark: "It appears to us of very considerable importance for the future prospects of flap extraction, that an ophthalmic authority like De Wecker should have again, in the year 1875, declared himself in favour of this operation." From this observation, closely following on the statement of De Hasner's modification, the warmest defender of extraction by flap, it might be thought that Dr. De Wecker had completely given up linear extraction in favour of the flap method. This is not so, however. Already, in our last year's report, we have dwelt on the point that extraction by the peripheral flap, although giving the most perfect results, and offering a security quite as great as De Græfe's method, yet in certain cases was in danger of giving rise to prolapse and adhesions of the iris, notwithstanding the use of eserine. This (taking into consideration that ulterior glaucomatous complications were to be feared) it was necessary to avoid as much as possible,

by reserving these cases for a method of combined extraction.

The tension of the eye, the mobility of the iris, the capacity of the anterior chamber, the maturity and consistency of the cataracts, have been in each case the subject of a careful and minute study, so that a reasonable choice might be made concerning which operation it would be advisable to perform.

The following practical rules have then been drawn up :

1st. All the eyes attacked by cataract, the tension of which exceeds the physiological condition (T=1 of Bowman), are dealt with by combined extraction.

We are quite convinced that the mobility of the sphincter, and its very strong contraction, stimulated still more by the use of a strong solution of sulphate of eserine (*au centième*), could not give a sufficiently certain guarantee against the complications of a prolapse, which may be occasionally caused, even when the wound is well adapted, through an effort made by the patient some time after the operation.

2nd. Whenever a large portion of the cortex has retained its transparency, and the cataract presents a sufficiently marked degree of immaturity, we prefer to use the combined method which allows of a more prolonged and more exact evacuation of the crystalline transparent masses accumulated at the capsule. By making the section sufficiently large, as has been stated in one of the preceding reports, it is possible after excision of the iris, to remove in their entirety immature cataracts, and thus allow the patient to have the benefit of the operation often several years before the time for which he would have had to wait for the full maturing of the cataract.

3rd. When we are dealing with a capsulo-lenticular cataract, where a large central mass occupies the crystalline surface, we prefer De Græfe's method to extraction by the peripheral flap. If we are indeed desirous in such a case to spare the iris, we strike with the cystotome, when the section is finished, and the pupil contracted, on the dense resisting part of the capsule, though we experience difficulty in incising the capsule without dislocating the lens. Even after having avoided this danger, it is very necessary after the escape of the lens, to remove the capsular layer, which is by no means easy when the iris has a tendency on all sides to overlap the edges of it, making it necessary to seize a portion between the teeth of the forceps. The combined method, on the contrary, singularly facilitates this delicate operation. Just at first after the excision of the iris, the capsule is easily opened by traversing the upper edge of the mass, that is to say, by incising the capsule towards the equator of the lens, while it is easy to seize the capsular mass, showing itself by its edge in the artificial cleft, and, to coax it, as well as the sack gently out, in such a manner as to place the eye in favourable conditions for a certain and very rapid recovery.

With these reservations, we can undoubtedly submit the other cases to extraction by the peripheral flap. Supposing the case to be one of soft cataract, which, no longer, owing to the presence of a small nucleus, is suitable for simple linear extraction, the extraction by peripheral flap (the maturity being complete) allows a complete evacuation of all the cortical masses, and a perfect clearness of the pupil, even keeping the iris intact. We are firmly convinced that hard cataracts, arrived at full maturity, and still more those in which the cortical

masses are in a fair way of retrogressive transformation, and which have, by absorption of a portion of their water, become agglutinated to a very large nucleus, should, when the degree of intra-ocular tension is not opposed to it, be exclusively reserved for Dr. De Wecker's method. The greater size of the section, in comparison with that which is made for combined linear extraction, when allows the cataract to come out *in globo ;* no clearing is necessary, and we avoid the unpleasantness of seeing the thickened masses of the cortical substance forming the periphery of the lens, break, as happens often enough in De Græfe's method, where we are in danger of leaving in the eye one or several fragments, which we often find a difficulty in removing. The quickness of the recovery, and the perfect result, should prevent the conscientious practitioner from abandoning himself to routine, and should deter him from submitting these cases so suitable for extraction by flap, to an extraction with mutilation of the iris ; besides, De Græfe himself had recognised certain difficulties arising from the evacuation by linear section of large-sized cataracts. In opposition to these rules so wisely laid down by Dr. De Wecker, it will be said, that, not only does the peripheral flap method demand great dexterity on the part of the operator, but also gives rise to the necessity of having skilful assistance and a certain docility on the part of the patient, if we do not wish to have recourse to anæsthetics.

A very simple modification, and one which renders the method of extraction by the peripheral flap infinitely easier, is its performance inferiorly. What specially induced Dr. de Wecker to make the section upwards was the fear that the friction of the lower eyelid might act very unfavourably on a prolapsed iris, in the case where

this accident would occur. But this objection ceases to have any weight, considering the rarity of such a complication, when first, we eliminate the cases in which the intra-ocular tension is very marked ; secondly, when we take care, the patient lying down for the operation, to instil one drop of a solution of sulphate of eserine (*au centième*) and to repeat the instillation once or twice after the extraction of the cataract. The coaptation of the flap, four mm. in height, falling exactly within the sclero-corneal limit, is so perfect, that we need not regret the advantage that the upper eye-lid affords in the case in which the section has been made upwards, if we keep the flap *in situ*. The complete evacuation of the cataract that decided us on the choice of the above-mentioned case does not permit of a greater cleanness of the section when the latter has as its seat the upper part of the cornea. On the other hand, it is very easy to enumerate the advantages that the making of the section downwards offers for the performance of the operation. Just at first the degree of tranquillity of the patient has nothing to do with the question, the eye to be operated on turning instinctively upwards, and generally remaining steadily in that position. There is no longer any need of skilful assistance ; it is sufficient to raise the eyelid, and to keep it thus so as to allow of the section being made. The operator ought always to fix it himself by seizing a conjunctival fold quite close to the vertical diameter of the cornea ; the fixing should not be given up till the section is nearly terminated. The act of opening the capsule (a delicate matter in the method by the superior flap) becomes very easy when the eye turning upwards, is held thus immovable during the time of this operation. It is scarcely necessary to raise

the upper eyelid a little to expose the pupil. Finally, if a reduction of the iris, in consequence of a prolapse, becomes necessary, this little operation is singularly facilitated when the section is made downwards. The docility of the patient being above everything important in this instance, sufficient steadiness of the eye is obtained by the patient turning his eye forcibly upwards.

Here we will make an observation on the comparison to be drawn between the results obtained by linear extraction and those obtained by the peripheral flap operation.

We find, out of an equal number of cases, three suppurations for De Wecker's method, whereas for combined extraction with peripheral flap not a single case of suppuration has been observed. This fact, which apparently is opposed to extraction by peripheral flap, loses its value if we take into consideration the small number of cases on which it bears, which does not even allow us to draw conclusions within *mathematical probability* (Hirschberg). It is, without doubt, a question of pure chance, if this year, out of 109 extractions by De Græfe's method, no case of suppuration has occurred; and the three cases furnished by an equal number of extractions by peripheral flap, would certainly not be found excessive, if De Græfe's operation had been adhered to.

A number of cases, apparently great enough, would not permit of a reasonable deduction so far as concerns the probable percentages, and this results from the following fact:—The three suppurations observed during the year 1876 occurred in the first four months of the year. From the 4th of April to the end of the year, 188 operations were performed by the two methods indicated above, and there has not occurred a

single case of suppuration. To what an erroneous conclusion we would have arrived, if, in drawing up statistics, we had exclusively adhered to that period of the year!

We often attach small importance to statistics, and, indeed, we must acknowledge that they frequently give rise to false estimates. We may easily be led into error regarding the given degree of vision, sometimes because the patients are examined too soon after the operation, sometimes because after this examination accidents still occur, and finally, because they do not present themselves for the functional examination (sometimes the patients are not again seen till four or five years afterwards, when they come for the operation on their second eye). But it is quite otherwise as regards the *immediate* result of the operation, and especially the cases of total or partial suppuration. To doubt on this point the correctness of a statistical table, is to directly impeach the truth of the reporter. Professor Cohn, who has in a sense created a statistical speciality in our special department, thus expresses himself with regard to the reports annually published of the Clinique: "To do away with the objection that the figures furnished by the institution cannot be regarded as *current coin*, I have proposed that this statistical table should not be drawn up by the person interested, but that—as Wecker and Coccius have already done—it be drawn up by assistants." That such a precaution is not sufficient to vanquish the incredulity of certain critics, is clearly shown by the uncourteous reflections which have been passed on Dr. De Wecker in a special paper (of trivial importance, however), and which should have been addressed exclusively to me, whose business it is to draw up the figures of the annual reports, for which I hold myself responsible.

TIGHT GUTTERS