CLINICAL LECTURES ON OPHTHALMOLOGY.

Delivered at St. Thomas's Hospital, London.

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LECTURE V.

ON A NEW METHOD OF EXTRACTION OF CATARACT.

GENTLEMEN,—Until now we could perform but small operations at our Thursday meetings. The Ophthalmic Ward having been opened last week, we shall be able to receive patients for operations of greater importance. We shall begin with cases of iridectomy and cataract; and, as for this latter, I shall have to explain to you my new method of extraction, the more detailed description of which will appear in our next *Hospital Reports*.

The frequent occurrence of total suppuration after flap-extraction induced the celebrated operators of Moorfields Hospital to return to, and to improve, the linear extraction, which at that time had been almost abandoned. Graefe, struck with the results which Messrs. Bowman and Critchett had obtained, submitted the question to further studies, and so formed the method which is now generally adopted in England as well as on the Continent.

There are numerous statistics which prove that in Graefe's method there is a much smaller percentage of total suppuration than in flap-extraction; also that, even in cases of very bad general constitution, weak and marastic individuals with thin and flabby cornea, the prognosis is not so unfavourable as in flap-extraction; and that the precautions we have to take after the operation, and the restrictions we have to impose upon the patient, are not so great.

On account of these advantages of Graefe's method, it was natural that the flap-extraction was soon abandoned. To me, however, it appeared that the mechanism of Graefe's operation was still too complicated and too violent; that prolapse of the vitreous body and hæmorrhage into the anterior chamber were too frequent during the operation, iritis and strangulation of the iris in the corners of the wound too frequent after it; and that the most favourable results, compared with the most favourable results in flap-extraction, were not perfect enough.

If these inconveniences be carefully inquired into, it is found that they can all be brought back to one and the same principal cause—namely, the peripheral position of the incision. This peripheric position explains why—

1. It is impossible to remove the lens without iridectomy.
2. The excision of the iris is to be large and extensive, else it causes too great an inclination to prolapse of the iris.
3. It is necessary to perform the operation above, so as to cover a part of this large pupil by the upper eyelid. The removal of the lens upwards is by far more difficult, on account of the tendency of the eye to escape upwards; and, consequently,
4. During the whole operation, the eye has to be kept open by the speculum, and to be drawn downwards by the forceps. This is not only painful and injurious to the eye itself, but causes—
5. Not unfrequently, prolapse of the vitreous body, to which a peripheral incision itself already tends. Prolapse of the vitreous body and hæmorrhage into the anterior chamber are the chief impediments to a careful removal of all the *débris* of the cortex, and cause—
6. Those grave forms of iritis which are sustained by the permanent irritation caused by the tumefied remainders of the lens behind the iris.

Of those disadvantages I was perfectly aware after I had followed for a short time Graefe's original plan; and I proposed, therefore, in 1867, in an article on Cataract which I wrote for the *Nouveau Dictionnaire de Médecine et de Chirurgie* (Paris, Baillière), some modifications. They are, however, but the first step I made; and in the last four years

I have come, by a large series of systematic experiments, to a method which I now, after more than three hundred operations performed in this manner, consider definitely settled.

The incision of the cornea is to be made with the smallest possible Graefe's knife, in the following manner.

Puncture and contrapuncture are made in the sclerotic about one millimetre beyond the cornea, the whole remaining incision passing with a very slight curve through the cornea, so that the centre of it is about one millimetre and a half distant from the margin of the cornea. This

incision can be made upwards or downwards, with or without iridectomy, and the lens can be removed through it with or without the capsule.

If, as I now practise, the extraction is made downwards without iridectomy, the whole operation is reduced to the greatest simplicity, and does not require narcosis, assistance, elevator, or fixation; and only two instruments—namely, Graefe's knife, and one cystotome, with David's spoon.

What are the advantages of this method of operating?

1. It is undoubtedly of all methods the simplest and the least painful.
2. It is unconditionally the easiest to perform, and requires the least practice. It may, therefore, be performed by those operators who from time to time only have an opportunity of doing so; and those patients benefit by it who are unable to reach a central point in order to place themselves in more practised hands. On account of the greater facility of operating, the last pretext for reclamation of cataract is removed, which, though almost universally and justly condemned, is still here and there performed.
3. It is preferable to the flap-extraction, on account of the safer and constantly regular incision. The flap-incision scarcely ever acquires the regularity which may theoretically be demanded—even if made by the most practised operator, with the best assistance, the most enduring patient, or under chloroform—by the use of elevator and fixation instruments. Now its height or breadth is not what it is intended to be; now its position is incorrect, or the wound is irregular—indeed, part of it is due to the difficult form of the incision; but by far the greater part, according to my conviction, is due to the mechanism by which the cuneiform cataract-knife is to make the incision. A small Graefe's knife would make a flap safer and more regular than the various other cataract-knives. The incision which I designed can easily be made, in giving it in every case exactly the desired form and position—even if the patient is very restless—without assistance, without elevator or fixation. It mainly depends on the facility with which the place of the contrapuncture can be chosen, the knife drawn back and made to pierce at another point if a mistake is made in the selection of the place for contrapuncture, and in the freedom with which, in terminating the incision, the inclination of the knife can be changed if necessary.
4. A little practice will enable every operator to avoid these corrections, and to make the contrapuncture, as well as the whole incision, correctly to his original plan, without subsequent alterations.
5. Against Graefe's method it has the advantage of a more favourable position of the field for the operation, and avoids through it all the inconveniences to which I have referred, as arising out of the peripheral position of the wound.
6. In regard to the mode of healing, it favourably contrasts, like Graefe's method, with the flap-extraction, on account of the diminished influences which age, constitution, general state of health, season, and other causes exert; also on account of the less demand made upon the patient to remain quiet after the operation; and, above all, on account of the lesser tendency to suppuration of the cornea.

The advantages of my method over that of Graefe are shown by the ultimate results obtained; by not showing a greater percentage of total suppuration than in Graefe's method, my best results are in regard to optical and (if I may use the term) anatomical perfection, identical with the best results obtained in flap-extraction.