

thick and strong, it will be better first to take up only a small fold of the conjunctiva, to open this, and then, seizing the subconjunctival tissue, to divide the latter. The squint-hook (which should be bent at a right angle, and have a slightly bulbous point, vide Fig. 22) is then to be passed

Fig. 22.



through the opening to the lower edge of the tendon. Its point being pressed somewhat firmly against the sclerotic, the hook is to be turned on the point and slid upwards beneath the tendon, as close to its insertion as possible, and the whole expanse of the tendon caught up. The operator must be careful not to direct the point of the hook upwards and outwards, otherwise it may perforate the fibres of the tendon, and only a portion of the

latter be caught up; the direction of the point should, therefore, be rather upwards and inwards. When the tendon has been secured on the hook, the conjunctiva which covers its upper portion may be gently pushed off with the points of the scissors, so as to expose the tendon, which is then to be carefully snipped through with the scissors as closely as possible to its insertion. When it has been completely cut through, the conjunctiva is to be slightly elevated on the point of the hook, and

a smaller hook passed upwards and downwards to ascertain whether the lateral expansions of the tendon have been divided. Should a few fibres remain, they must be divided, and the surgeon should again ascertain whether any others are still present. He should never omit to satisfy himself upon this point, for sometimes the lateral expansions are considerable, the tendon spreading out like a fan, and although a few fibres only might remain undivided, they would suffice to spoil the effect of the operation.

“ I have lately adopted a modification of Von Graefe's operation, and perform it more subconjunctivally. I use a pair of straight, blunt-pointed scissors, and, instead of pushing off the conjunctiva from the hook so as to expose the tendon caught up by the latter, I divide the tendon subconjunctivally, quite close to its insertion. In this way, the advantages of Graefe's and of the subconjunctival operation are combined. On account of the smaller size of the hook, and the situation of the incision (which is between the centre and lower edge of the tendon), the subconjunctival tissue is stretched and incised to a much less extent than in the subconjunctival operation. Again, the position and direction of the conjunctival wound are such that a suture can, if necessary, be at once applied ;



whereas, in the subconjunctival operation the incision would have to be considerably enlarged upwards, before any effect could be produced by a suture upon the two cut edges of the tendon. But where the degree of strabismus is so considerable that it is certain no suture will be required, the subconjunctival operation may be employed; and also if we have no assistant at hand to roll the eye in the opposite direction.

“If it is found, on the first introduction of the hook, that it slides up to the edge of the cornea without having caught up the tendon, it is certain that we have either not divided the subconjunctival tissue at all, or that the hook has been passed between it and the conjunctiva. If the former is the case, we must open the subconjunctival tissue, and then, on re-introducing the hook, we shall have no difficulty in finding the tendon.

“Mr. Critchett’s subconjunctival operation is to be performed as follows:—The patient having been placed under the influence of chloroform, and the eyelids kept apart by the stop-speculum, he seizes a small fold of the conjunctiva and subconjunctival tissue at the lower edge of the insertion of the rectus muscle, and with a pair of blunt-pointed straight scissors, makes a small incision at this point through these structures, or the conjunctiva.

and subconjunctival tissue may be divided separately. The lower edge of the tendon, close to its insertion, is now exposed. A blunt hook (Fig. 23) is to be passed through the opening in the subconjunctival tissue beneath the tendon, so as to catch up the latter, and render it tense. The points of the scissors (but slightly opened) are then to be introduced into the aperture, and one point passed along the hook behind the tendon, the other in front of the tendon between it and the conjunctiva, and the tendon is then to be divided close to its insertion by successive snips of the scissors. A small counter-puncture may be made at the upper edge of the tendon to permit of the escape of any effused blood, and thus prevent its diffusion beneath the conjunctiva (Bowman).”

The after-treatment is very simple. The eye, after having been well washed and cleansed of any blood coagula, is to be kept constantly moist with cold water dressing during the day of operation, so as to prevent any extensive effusion of blood under the conjunctiva. No button of granulation will form on the stump of the tendon, if the latter has been divided close to its insertion, and if the





opening in the conjunctiva has been made near the upper or lower edge of the tendon, so as not to leave the latter exposed.

The effect upon the squint, which follows immediately upon the operation, will not be the permanent one. We may, indeed, distinguish three stages in the effect produced by the operation:—1st. The period immediately following the operation; 2nd. After three or four days have elapsed; 3rd. After the interval of a few months,—this being the permanent effect. During the first stage the effect will be considerable, for the eye can now only be moved in the direction of the divided muscle, by the indirect connexion of the latter with the sclerotic by the lateral processes of the capsule of Tenon. As soon as the divided end of the tendon becomes reunited with the sclerotic, which generally occurs within three or four days, the effect will diminish, for the muscle now again exerts a direct influence upon the eyeball. This is the second stage. But we find that a further alteration in the position generally shows itself a few weeks or months after the operation, the effect being then somewhat increased. This is due to the action of the opponent muscle, which, on account of its antagonist having been weakened, can now exert a greater influence upon the position of the eyeball.

I have already stated that if both internal recti are very weak, a tenotomy of the two abductors may be indicated, but this should never be done at one sitting. A few days after the operation upon the one eye, the other should be carefully examined, in order that we may ascertain the degree of insufficiency which still remains, and the extent to which the operation is necessary. The external rectus of this eye should then be very carefully divided, and the accommodative movements of the eyes be tested, as well as the amount of convergence at a distance, and the prism which is required to unite the homonymous double images; and if the convergence at all exceeds our wishes, a conjunctival suture should be at once inserted. The effect of the suture will vary with its position and with the amount of conjunctiva embraced in it. It will be greatest if it be applied horizontally over the centre of the tendon, so as to unite the middle portion of the edges of the conjunctival wound. The suture diminishes the effect of the operation by re-advancing the tendon, which is closely connected with the subconjunctival tissue; the divided ends of the tendon will consequently be more closely approximated, and the retraction of the muscle diminished. The suture may remain in for from 24 to 36 hours.