A NEW KNIFE FOR DOING VAN MILLINGEN'S GRAFTING OPERATION*

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In countries where trachoma is prevalent, ophthalmic surgeons, especially those working in campaigns against trachoma, meet with its complications as part of their everyday routine work. One of the most common complications of trachoma met with is trichiasis. It is so common a complication in fact, that in a country like Egypt, where a great percentage of the population are infected with trachoma, more than 100,000 operations for trichiasis were done in 1936, a number which is increasing yearly. The treatment of trichiasis is purely surgical and, the outstanding operations that are done for its cure are Snellen's operation and Van-Millingen's grafting operation.

Van-Millingen's grafting operation is preferably done in certain cases of trichiasis and is imperatively done in others. And it is out of the scope of this paper to describe the technique of the operation or its indications in detail. But I will just mention that the fundamental point upon which the operation is based, is the formation of a groove in the intermarginal space of the lid, posterior to the eyelashes, splitting the tarsus partially, in which a mucous graft from the lip is inlaid. In doing the intermarginal groove in which fits the graft, an ordinary Landolt scalpel is used. After a vast experience in doing the said operation, I found that making the groove, upon whose perfection a good deal of the success of the operation depends, with the Landolt, is not absolutely satisfactory. The difficulty is experienced in both lids but more in the left than in the right. It is even more experienced when doing the grafting operation after a previous unsuccessful Snellen's. It is more or less a mechanical difficulty and is due to the following reasons:—

(1) The handle of the Landolt scalpel is too short and you feel that clearly when you are doing a left lid and using your right hand, which is the hand usually used, when you will find that to reach the inner canthus region so as to complete the intermarginal groove you will be obliged to hold the scalpel by the far end of its handle. In that position the scalpel will not be as well supported as when it is held from the near end of the handle with the far end resting on the palm of the hand. In the latter

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position the scalpel can be freely and better used. And this affects much the precision and comfort of the operator and consequently the success of the operation.

(2) In doing the intermarginal groove, your hand and the scalpel must lie on the flat so as to be able to make it. In that position the spatula and the assistant's hand will be in the way preventing you mechanically from the free use of the scalpel. And one cannot work without a spatula or an assistant. Of course to combat that difficulty one always try to evert the edge of the lid slightly with a bit of gauze in one hand while doing the incision with the other, but even then the spatula and the assistant's hand are in the way. Also in the cases in which the grafting operation is done after a previous unsuccessful Snellen's, and these are the majority of the cases, the edge of the lid gets so thin and cicatrised that it cannot, or at least is not easily everted. The aim of everting the lid margin is to make the knife with its edge lie perpendicular to the edge of the lid in the place where you are going to make the groove. And as that aim is not fulfilled in the majority of cases and especially in left lids, owing to the above reasons, the knife will not be perpendicular to the edge of the lid, but slanting slightly towards the conjunctival surface. And it is not an uncommon experience to find, after making the groove and applying the stitches, that it is not really a groove but a valvular incision and does not become a real groove until you open it or push the posterior lip backwards with the forceps or tip of the closed scissors to put the graft. That undoubtedly affects the graft itself and spoils a good deal of the aim of the operation. Besides, though this is not of much importance, the mere eversion of the lid necessitates applying some pressure upon it, which increases the pain of the patient, because as it is well known, the only pain that the patient feels in that operation is from the pressure of the spatula.

(3) In doing mucous grafting operation for the left lid with your right hand, which, as I said before, is the usual thing to do, the nose of the patient gets in the way especially when you are working in the region of the inner third of the lid. You can use your left hand for that region but using a scalpel with your left hand is not as using a Graefe knife and the lid margin is not like the limbus. Thus if you use your left hand, you will not be working with any dexterity, and if the lid margin is thin and cicatrised as is seen in most cases of recurrent trichiasis, you are sure to cut either one lip of the groove, or both, or encroach upon the roots of the lashes. Any of these mishaps will, of course, affect the success of the operation. And even if the operation is successfully done, using your right or your left hand, the time
in which the operation is done is increased owing to that impediment.

Being a very common operation, and as most of the eye operations its success surgically and cosmetically depends so much on fine details, and considering that the time factor is very important especially in hospital work, and considering too that all these difficulties are absolutely unnecessary, I thought of devising a new knife that will combat them. The knife devised is described as follows:

(1) The handle is of the same shape as that of an ordinary Landolt scalpel, but it is longer. The handle of the Landolt scalpel is 9·5 cm. long approximately, and the handle of this knife is 10·5 cm. long, approximately. There is another difference which is that the handle of the Landolt scalpel is made of hollowed metal, while the new knife is solid formed from the steel. This difference is due to the fact that the length of the handle of the new knife is to be more than the standard model, the handles of which are made by the thousand from expensive tools and the cost of making one hollow handle of a different size would be out of all proportion to the cost of the article. The difference in the metal from which the handle is formed, does not, of course, affect the value of the scalpel.

(2) The blade of the new knife is, on the other hand, quite different. It is short, because there is no need for it to be long. The blade of this knife is 1·5 cms. long approximately. It makes with the handle an angle of 120°. The angle is along the broad side of the handle and not along the narrow side. The base of the blade is about 4 mm. in breadth. The sides of the blade beginning from the base, are slightly curved, with both convexities towards the outside and they meet in a pointed sharp end. The blade is sharp on both sides. It is slightly thick in the centre and gets thin as it passes towards both sides and towards the tip.

(3) The joint between the handle and the blade is similar to that of an ordinary Landolt scalpel but of course it is bent so as to make the required angle of 120°.
This as far as possible, is the exact description of the scalpel. It has a long handle so that it will be well supported during use. The blade is put at an angle of $120^\circ$ to the handle, obviously to combat all the difficulties mentioned above. You can now work freely with it. Neither the nose of the patient, nor spatula, nor the assistant's hand will be in the way because, owing to this angle, your working hand will be on a far higher level than all of them, and there is no need for it to lie on the flat. It has both sides sharp so as to work well for the right as for the left lids, for the upper as for the lower lids, and with your right as with your left hand, though with this scalpel, there is no need for you to use your left hand at all. With this bent blade, whose sides and tip are sharp, you can reach the most medial parts of both lids as easily and precisely as any other part of the lid, without any discomfort, risk, or loss of time. Thus it facilitates the operation immensely, adding so much to the precision in its doing, and consequently in its success surgically and cosmetically.

Besides its use in this operation, the new scalpel can be used in the opening of styes and chalazia, as well as many other minor operations. In exision of lashes it is really far better and easier to use than any other scalpel.

The design and description of the knife, and the points in its favour, were sent by me to the firm of John Weiss & Son, Ltd., 287, Oxford Street, London, who after appreciating the idea and finding that there is no practical difficulty in the design, were kind enough to manufacture the knife.

I am putting the knife for trial and I would really be much obliged to any of our colleagues who will be kind enough to report me his experience with it after its use in his cases, and hope that it will fulfil all it is meant for with you as it did with me.

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**ANNOTATION**

The Tuberculous Phlycten

Dr. Dorothy Price, in the *Irish Journal of Medical Science*, July, 1940, contributes a short note on the tuberculous phlycten from the point of view, not of the ophthalmologist, but of the clinician.

At the present time opinion, based on published statistics, is agreed that from 85 to 95 per cent. of phlyctenular cases show a positive "tuberculous reaction," and are considered to be due to a tuberculin allergy. The clinician finds that the tuberculous phlycten is an allergic phenomenon; it arises first during the primary and hypersensitive stage of pulmonary tuberculosis in a very small proportion