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must consider whether the passage from the lachrymal sac may not have been overlooked. One may have an œzema without any apparent discharge from the sac, but which would still be a source of danger to the operation.

DR. LIPPINCOTT. — Some of these cases of infection, in my judgment, come from the nose, and that is the reason we cannot sterilize the conjunctiva; because we do not close the puncta. If the puncta be closed by an ointment of bichloride of mercury, melted and dropped into the eye immediately after the operation, the canaliculi are closed, and the entrance of germs from the nasal cavities is prevented, and my experience teaches me that this is a very valuable means of preventing infection in any case in which the eyeball is to be opened.

DR. TAYLOR. — In this case I thoroughly sterilized as I always do, the patient had no œzema, and I had operated on him on each eye for cataract with good results. He was not a well-nourished patient, however, and was suspected of having a venereal taint.

* * ABOUT SKIN-GRAFTING IN OPHTHALMIC SURGERY.

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We all know that ophthalmic surgery presents many opportunities for the useful application of skin-grafting in both mucous and cutaneous surfaces, and that our work in this field necessitates extreme accuracy in order to insure reasonably good results. In any event, it will be conceded that upon this subject the last word has not been said. It is often desirable, I may say, indispensable, that we employ as much of the skin texture as possible in order to minimize the tendency to subsequent shrinking and loss of pliability. This is a totally different matter to the mere restoration of epithelium to a wide denuded surface, which may be accomplished by the use of extremely thin shavings from the skin surface, or even by scrapings from the same, but for such a purpose ophthalmic surgery has no use, since there is always a necessity for the transference of skin of substantial quality and thick-

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ness. This necessity carries with it all the elements of failure just in proportion to the size and thickness of the graft; we cannot, however, afford anything less than complete success at the first attempt, because the parts are not likely ever again to be in a condition so favorable for obtaining a perfect result as they are the first time the operation is performed.

By complete success I mean re-covering of entire raw surface with integument which unites immediately and permanently without the slightest flaw or loss. Judging from the published records of such work the difficulties in the way of obtaining satisfactory results are very great and failures have been many. The causes of failure may be summarized as follows: (1) The size and thickness of the graft may be so great that it fails to become nourished sufficiently and so perishes through lack of vitalizing power. (2) Imperfect coaptation, so that some part of the new skin fails to secure nourishment. (3) An imperfectly prepared surface, especially as to arrest of bleeding. (4) The parts may not be sufficiently aseptic. (5) Accidents or injury before healing is well advanced. Failure from the first of these causes can fairly be attributed to an error of judgment on the part of the operator; failure from the third and fourth implies an error in technique; from the fifth, a want of proper care in the after treatment. There remains for consideration only No. 2, and this is by far the most important of all. The problem to be solved is How can perfect coaptation best be secured? In this connection the fact must be recognized that every skin-graft consisting of more than mere epithelial shaving, tends to roll in upon itself towards the cut surface. This tendency cannot be controlled by merely laying the graft upon a raw surface, nor can it be perfectly overcome by fastening the graft in its place with stitches, since the intervening portions between each stitch will continue to turn inwards. Now this unfortunate tendency becomes a fatal obstacle to union at the edges of the graft, and in addition a sort of sulcus is formed in which fluid exudate collects and readily becomes septic, besides separating the graft more from its base and source of nourishment. In order to overcome the difficulties aris-

ing from this peculiarity of the skin, I sought for some means to make it stay in position with an absolutely perfect spread throughout. For this purpose I found ordinary silk isinglass plaster entirely satisfactory; some experience is required in order to secure the maximum adhesive quality of the plaster just at the right moment. I find it best to have the plaster cut in convenient strips, a certain area of which is carefully moistened just enough to make it very sticky, then the graft, cut as nearly as may be to the size required, is transferred dry from the razor with its epithelial surface on the plaster, then with a silver curette it is stroked and spread until completely adherent. When this is done, both skin and plaster may be trimmed with sharp, straight scissors exactly to the size and shape desired. If the surface be large it may be covered by several neatly trimmed pieces of skin prepared in this way. Over the whole I next place a piece of cargin membrane, dust with finely powdered iodoform, pad with cotton wool in such a way to secure gentle but tolerably firm and uniform pressure. Skin-grafts applied in this way, after Thiersch's method, even when large, do not fail; they all survive and adhere perfectly to the surface, this, too, when applied where mucous secretions may be present and would otherwise lead to infection and destruction of the graft. There are two distinct classes of cases in which skin-grafting is required in ophthalmic surgery: The first of these, and by far the more common, is where the skin of the eyelids is deficient and the defect may best be repaired in this way, that is to say when sliding flaps are not available; the second is where the conjunctiva is at fault and requires to be repaired by some sort of integument, either skin or mucous membrane. Such a requirement occurs in certain cases of traumatic origin in which the palpebral and ocular portions have become adherent, and also in cicatricial contraction of the conjunctival sac, such as takes place from persistent wearing of an artificial eye, long after it has become roughened by continued use. The method is applicable in all cases suitable for this form of plastic surgery. There are one or two points in regard to preparing the surface to be grafted upon that invite further remarks. In

the first place, it is entirely essential that all bleeding has ceased before the grafts are applied; strict asepsis at every step is also indispensable. Then again, the surface should be put upon the stretch if need be by sutures through adjacent parts which may be attached to adhesive plaster on the surrounding surface, an arrangement, of course, of a temporary character; for instance, in repairing contractions of the empty conjunctival sac, it may be necessary to do a canthotomy at the outer canthus, and draw the loosened lids strongly upwards and downwards by sutures passed through them and attached as indicated. Lastly, when the grafts are in place great care is necessary in applying a bandage with the double purpose of protection and of making gentle and uniform pressure so as to prevent the hemorrhage of reaction.

There is nothing in ophthalmic surgery, at least in the writer's experience, more gratifying than the perfect results obtainable from skin-grafting carried out in the manner just described.

A CASE OF LEUCO-SARCOMA OF THE CHOROID.

By THOMAS R. POOLEY, M.D.,

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This case is reported because of the comparative rarity of non-pigmented sarcoma of the choroid, as well as on account of some points of interest in its clinical history and anatomical findings.

The patient, a man aged thirty-five, came under my care on December 12, 1902, in my clinical practice. He was possessed of very limited intelligence and could give but little account of his symptoms. About three weeks before I saw him he thought he had gotten something in his left eye, and, as his eye continued irritable, and he found that he could not see with it, he applied for treatment. He did not complain of severe pain in the eye at any time, and is sure that before the time referred to he saw very well with it.

When I examined him, this eye showed the typical features of absolute glaucoma: Circumcorneal injection of a venous charac-