Cases of extirpation of the lachrymal sac / by Freeland Fergus and A.L. M'Millan.

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CASES OF EXTIRPATION OF THE LACHRYMAL SAC.[1]

By Dr. FREELAND FERGUS and Dr. A. L. M'MILLAN.

[Dr. Fergus.]

Dr. Fergus said that the first occasion on which he had excised a lachrymal sac was seven years ago, when he did it as a preliminary to cataract extraction. The patient had a fully matured cataract in one eye, and an incipient cataract in the other. On the side with the ripe cataract there had been for many years a chronic suppuration of the sac. The patient had already been refused operation, as it was very properly considered that the risk of suppuration was too great to be run, and had been advised to wait till the other eye matured. That, of course, meant an indefinitely prolonged period. Dr. Fergus's experience had shown him that probing and irrigation were in most cases only palliative, so he determined to try other means. The patient was accordingly put under a general anæsthetic, and the sac was excised. A radical cure was obtained, and the lens was subsequently successfully removed.

Dr. Fergus believed that the description of the pathological condition to be found in the text-books was essentially wrong. It was generally stated that the starting-point of suppuration in the sac was a stricture at the junction of the sac with the nasal duct, that the tears accumulated, and hence the suppuration.

If this view were true, then the passing of probes might not be irrational. He held, however, that both the stricture and the formation of the abscess were due to infection of the mucous membrane. They were both *post hoc*. The recent researches of Tartuferi had, in his opinion, thrown a great deal of light on the subject. The wall of the sac was not the simple structure usually described, but contained little

[1] Paper read and cases shown at a meeting of the Glasgow Pathological and Clinical Society held on 8th October, 1906.

diverticula in which micro-organisms might find a resting-place, setting up from time to time acute or subacute inflammation. Most of these cases were due to infection either from the streptococcus or pneumococcus; occasionally they were tubercular in origin. He believed that probing with thorough irrigation might sometimes procure recovery, and thought that in most cases this line of treatment should be given a trial. When the dacryo-cystitis, however, was recurrent, he thought that the sac should invariably be excised. If properly done, in most cases this effected a radical cure.

In only one of his patients a small piece of the membrane had inadvertently been left in, and suppuration had recurred.

Cases due to tubercular disease were apt to be disappointing, for the involvement of the sac was only part of the mischief, and frequently the deeper structures were invaded by tubercle.

In conclusion, he wished strongly to deprecate the old treatment by division of the canaliculus either by Weber's or Stilling's knife. There was no doubt a stricture at the end of the passage, right down at the junction of the sac with the duct. He could not conceive how it was possible to remedy this by the destruction of the punctum and canaliculus at the upper part of the passage. It seemed to him that any such procedure was as unjustifiable as it would be in stricture of another organ to divide it from the meatus externus right up to its membranous portion.

When this operation was proposed to a patient, he was almost invariably asked whether it would not cause great and permanent lachrymation. Practically he had not found this to be the case. If it did occur, however, it would be perfectly simple to remove the lachrymal gland by the method of double eversion of the eyelid.

[Dr. M'Millan.]

Description of the operation.—The sac is well douched out beforehand, and at the time of operation an attempt is made to dilate the sac with pure glycerine. I chose glycerine as being of a thick consistency and little liable to injure the tissues should any escape from the sac. Having defined the internal palpebral ligament, an incision is made through the skin, beginning over the centre of the ligament and extending obliquely downwards and outwards for about three-quarters

of an inch. Care must be taken in defining the ligament, which is done by making the skin tense over it, not to keep the parts distorted, otherwise the incision will not lie directly over the sac. The edges of the skin wound are next undermined for a short distance, and Müller's retractor, an instrument first brought to our notice by Dr. Inglis Pollock, is then introduced. An excellent method when the retractor is not at hand, or when it fails to keep its position during the operation, is one which I first used in removing a small growth over the orbital arch, namely, to pass two sutures through the skin, one on either side of the wound, and make traction on these. This, of course, involves an extra pair of hands, but keeps these hands well out of the way of the operator, and does not bruise the tissues. The muscular fibres of the orbicularis are next carefully dissected through, and the anterior surface of the sac laid bare. By scissor dissection chiefly the sides and top of the sac are freed as much as possible, one blade of the scissors making a useful blunt dissector, then, grasping the sac firmly with a pair of forceps, the nasal duct is cut across close to the bone, and, still by means of the scissors, the sac dissected upwards, and so removed from its bony sulcus. The wound is closed with sutures, special care being taken to replace the inner canthus in its original position, as the internal palpebral ligament has been cut across during removal of the sac, and dressed in the usual manner. A gauze drain may be inserted at the lower angle of the wound if thought necessary. Should the sac not come into view clearly, it may be defined by feeling for the inner edge of the bony sulcus in the nasal process of the superior maxillary bone, behind which it ought to lie, if not inflated. Failing to define it thus, a probe may be passed along the canaliculus into the sac and down the nasal duct. Dissecting carefully with scissors on each side of the probe, the whole mass, including the probe, is seized with forceps low down, the probe withdrawn, the sac cut across as before and removed upwards. If this manœuvre fails to define the sac, the only alternative will be to leave the probe in the sac and dissect both out together as well as possible, curette the parts well, and insert stitches and a gauze drain.

In some cases, those in which a sinus leads from a suppurating cavity (I can hardly call it a sac) to the skin, all that one can do is to cut straight down on the cavity, remove as much as thought necessary by dissection, curette well, pack, and allow to fill up by granulation. During this operation

there may be some free bleeding, but I have not found the angular artery to give trouble, nor have I found it necessary to do more than apply pressure forceps, and that but seldom. Müller's retractor I have found useful in retarding hæmorrhage by its pressure on the parts. So far the results have been most satisfactory, and, in my opinion, fully justify the operation. I do not say that the operation is one to be done in every case, but in mucocele, an atonic condition of the sac, it gives the best results of any treatment which we have tried; and in chronic dacryo-cystitis it is certainly a radical cure. Watering of the eye, or epiphora, is not made worse by the operation, and in our experience it soon ceases to give trouble.

My cases have hitherto been all done under a general anæsthetic, as it is a somewhat tedious operation; and I have not had courage to try local anæsthesia, although I understand it is done thus in some places.

I have to thank Dr. Fergus for the opportunity given to me to perform the majority of my cases, and, indeed, for the suggestion at the outset of trying the operation in such cases.

The following cases were shown:—

Case I.—Miss W. had been subject to dacryo-cystitis for twenty-five years, and when seen on 18th September, 1905, there was a large mucocele on the right side, the upper puncta was blocked, the lower canaliculus slit, but the passage also impervious. After various probings and douchings, during which a false passage was discovered, the sac[1] was removed on 4th February, 1906, in the usual manner. The wound healed without drainage by first intention, and the result I am able to show you to-night.

Case II.—Mrs. M., aged 37, had suffered from dacryo-cystitis of at least twelve months' duration. Probing and douching having been tried, without lasting effect, the sac was removed on 2nd December, 1905. The wound healed by first intention.

Case III.—D. W., aged 25, had suffered from dacryo-cystitis of the left sac for from eighteen months to two years. Pus exuded on pressure, and so the sac was well washed out for some days previous to the operation. *Operation* (22nd August, 1906).—As the sac failed to appear in the wound on injecting glycerine, a probe was passed down into the nasal duct, the sac defined, seized with forceps, and the probe withdrawn. A small gauze drain was inserted for

[1] Sac shown.

two days at the lower angle of the wound, and then withdrawn entirely. Healing was uneventful.

CASE IV.—Mrs. C., age about 35, had epiphora of the right eye for at least two years, and a mucocele for about one year. Probes were passed only twice, causing considerable pain, and I removed the sac on 3rd October, 1906. An incision brought the sac well into the wound, but being very tense and thin-walled it collapsed soon after, and deluged the part with muco-purulent fluid. It was removed piecemeal, the parts curetted, the wound stitched, and a gauze drain inserted for a day or two. The wound has now quite healed.

CASE V.—Mrs. M. W., aged 62, had epiphora for about ten years, a mucocele coming and going during that time. As she had also cataract of this eye (the right one), I removed the sac[1] on 3rd October last, in view of a future operation for the cataract. It proved of leathery consistence, and was removed easily and entire. Stitches were inserted, and union has been by first intention. There was little hæmorrhage to speak of.

CASE VI.—Chas. S., aged 16, shown as a case of tubercular origin ending in an abscess cavity, which was incised, curetted, and packed. The cavity led down to the nasal cavity, and the bone was carious. Healing was slow, but is now quite complete, and has been for some months.

[1] Sac shown.

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