

THE

BOSTON MEDICAL AND SURGICAL JOURNAL.

NEW SERIES.]

THURSDAY, MARCH 18, 1869.

[VOL. III.—No. 7.]

Original Communications.

TREATMENT OF DISEASES OF THE LACHRYMAL SAC.

From an Article by Professor ARLT.*

[Translated for the Journal by HASKET DERRY, M.D.]

[THIS important subject seems in our community to be very generally misapprehended. The ophthalmic surgeon receives constant applications, from sufferers with such affections, for the insertion of the style or the passage of the probe from below into the nasal duct. And occasionally practitioners are found to be unaware that these methods are now happily obsolete. In the face of this it has seemed to the translator that the following selections from the able article just published by Professor Arlt, the occupant of the chair of Ophthalmology at Vienna, and one of the most eminent authorities of the day, might profitably be transferred to the columns of the JOURNAL.]

The anatomy of the parts is first elaborately discussed and illustrated by various drawings from nature, sections of frozen heads being employed. From this the proper rules for the passage of the probe are deduced. It is shown that though, after the method of Bowman, the canaliculus be thoroughly divided, it can never be kept open through more than half its length, a fact that has an important practical bearing. Denuded bone and entire occlusion of the sac are declared to be of comparatively infrequent occurrence. And a guarded prognosis is advised in cases where there is much dilatation of the anterior wall of the sac; the flow of tears often continuing after the largest probes have passed, owing to the inability of the stretched fibres of the orbicularis to produce the compression necessary to expel the contents of the sac.]

I have for nearly ten years practised the dilatation of the natural passage exclusively on the plan of Bowman, with but slight

modifications; the idea, however, on which I have proceeded, or rather to which the course of my observations has conducted me, is different from that which appears to have floated through the mind of the great reformer in the treatment of diseases of the lachrymal duct. I am of opinion *that so great a dilatation as is sought to be effected by the use of probes No. 5 and No. 6 of the Bowman series, is neither necessary to the restoration of the normal functions, nor devoid of danger.*

It is unnecessary; for during the last three or four years I have seldom used No. 5 and never No. 6, and have still effected many lasting cures. All this time, too, I have hardly had a case of obliteration of the canaliculus or nasal duct, following the probe treatment. It is the larger probes, in my opinion, which are apt to cause laceration and consequent closure of either of these places, even when properly introduced.

Let us consider what takes place *when the probe is passed through the lower canaliculus.* About 3''' of it cannot be slit up, at any rate cannot be converted into a permanent open channel. The aperture of this portion is smaller than the diameter of No. 5. Granted that by the gradual passage from small to large probes we may even get in No. 6 without danger of disturbing the epithelial layer, we are by no means sure of not rupturing or lacerating the canaliculus. The line of direction of the lower canaliculus is set at an acute angle to the line of direction of the lachrymal duct. When the probe is raised, the end of the unslit portion must be dislocated and stretched in proportion to its length and the tenacity with which it encloses the probe which has been introduced. Neither the outer nor the inner end of the unslit portion admits of more than a moderate change of position, the inner end especially being a part where rupture cannot always be avoided, no matter how slowly the probe is raised. It is this rupture which I believe lies at the bottom of the subsequent closure. Take a case where No. 6 has been easily introduced, and where the intervals

[WHOLE No. 2142.]

* Archiv für Ophthalmologie. Bd. 14. Abth. 3. S. 267.
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between the treatment are gradually allowed to grow longer, suddenly it will be discovered that no probe, or at most only a very small one, can be introduced. In this connection I should say that, in some cases where even No. 1 could not be passed, I have succeeded in introducing the conical probe, carefully observing the proper line of direction, and have then gradually been enabled to resume the use of the larger probes. I cannot, however, state whether entire occlusion did not in time ensue, it happening unfortunately that the patients absented themselves as soon as they ceased to be annoyed by lachrymation. If I could not succeed in this way, I slit up the upper canaliculus and probed through this.

I am not sure, but am fearful that the large probes may cause mischief in the nasal portion of the canal, the capacity of which is known—in the majority of cases—to be hardly above No. 4. When, after the removal of the probe, the patient has bleeding at the nose, I consider that there is a tendency to cicatricial contraction or obliteration, and I omit probing for several days. If the bleeding takes place at the first visit, I can only account for it by supposing the probe to have been improperly introduced or removed. And I may here say that I accomplish the latter manœuvre after fixing the head, and nearly as slowly as the former. If at a subsequent visit, and after the use of a larger probe, I get bleeding, I am apt to suspect that the size of the probe has given rise to a loss of epithelium or to rupture. If I have begun to use a larger probe, and get on withdrawal a feeling as though it were held fast by the passage, I interrupt the treatment for several days, and take next time a smaller probe. I sometimes use Nos. 3 and 4 and a rather slight No. 5, slightly bent and made of hardened caoutchouc, and these effect a passage in many cases where silver ones of the same size could not be introduced without danger of injury.

Probing through the upper canaliculus I have only employed in cases where the lower had grown up, after treatment by me or by others. Both the slitting up and the proper introduction of the probe into the sac present here, I think, extra difficulty, particularly when the brows are unusually prominent. In such cases it is not always easy to put the canaliculus on the stretch in the proper direction, that it may be correctly slit up; still less to keep it stretched and pass the end of the sound downwards and inwards along its anterior lower wall. But raising the probe is not only

easier but less dangerous, inasmuch as the unslit portion of the canaliculus lies at a very obtuse angle to the line of direction of the lachrymal sac. Here, too, should the relative size of the probe be too large, we incur the danger of disturbing the continuity of the epithelial layer and rupturing the canaliculus. If we turn the probe without being certain that its end has reached the extremity of the canaliculus, we may pierce its walls and thus endanger the integrity of the lower canaliculus. The difference between this method and that of Anel consists in the slitting up of (the outer half of) the canaliculus; it allows the introduction of larger probes with much less violence, and consequently much less danger of catching the probe in the inner wall of the sac. The larger probes are more readily guided, more easily handled, and run less risk of penetrating the tissues than the fine ones which Anel was obliged to employ.

I have never practised the *method of Weber*.^{*} When he published it I was trying that of Bowman, and in the course of this trial I became gradually convinced that the thing to be gained is not so much the smoothing out of the sides as the restoration and maintenance of a canal large enough to interpose no invincible obstacle to the fluid sent down by the action of the orbicularis. Is it to be supposed that Anel never wrought a cure with his thin probes? A reliable old practitioner, Dr. Schmalz of Pirna, assured me that he got his best results by the simple insertion of a thread (the method of Ad. Schmidt). Too much stress is not to be laid on the analogy with the urethra; for there we so often have an opportunity, by subsequent autopsy, of testing and confirming the correctness of our theories as to the position and consistency of the stricture, as to accumulate a certain amount of sound theoretical knowledge, bearing upon subsequent soundings and their significance. But in the case before us we rarely have a chance of gaining anything by dissection, while a knowledge of the relation of such results to our previous observations of the case, and to the action of caustics and probes, will

^{*} A. f. O. Bd. viii. Abth. I. S. 94. [Instead of Bowman's probes, Weber proposed the employment of elastic urethral bougies of small size, stiffened with a central wire. In tight callous strictures to which this treatment was inapplicable, he employed conical metallic probes, the thin portion of which was constructed of hard, the thick of soft silver, and thus prepared the way for the introduction of the bougies. He moreover slit up the canaliculus as far as its entrance into the lachrymal sac, and the entrance to the sac itself, dividing the ligamentum mediale subcutaneously. He made his approach through the upper canaliculus.—H. D.]

long be a consummation devoutly to be wished for. The urethra is surrounded by soft, more or less elastic tissues; the nasal duct by bone. What becomes of the circulation in the mucous membrane imprisoned between the bone and the probe or bougie? What state of things supervenes directly on such imprisonment? May it not happen, during the passage or withdrawal of probes that enlarge after introduction, that the union between the mucous membrane and the bone gives way more readily than the adhesion between the probe (bougie) and the mucous membrane? The diseases of the urethra generally result from local irritation; the mucous lining of the lachrymal sac is hardly accessible to aught else than the tears. It is a well-known fact that even in conjunctival blennorrhœa (acute, chronic, of the new-born, or of adults) it is seldom we see an invasion of the mucous membrane of the lachrymal sac. Nearly all diseases of the lachrymal sac are to be traced to a chronic catarrhal inflammation of its mucous lining, and this in the majority of cases is doubtless connected with extended disease of the mucous membrane of the nose or throat, with scrofula, an injudicious course of life, and unfavorable external circumstances. In relapses of chronic catarrhal inflammation, are we to consider insufficient local treatment the invariable, or at least immediate cause? May not new inflammation and new stricture arise in a lachrymal sac that has undergone general dilatation? I regard probes (and bougies) as a single and not the only remedy in chronic catarrhal affections of the mucous lining of the lachrymal sac. I have made but slight trial of the injection of medicinal agents, such as moderately strong solutions of sulphate of zinc or nitrate of silver; intend, however, in future to apply them more frequently with the probe-syringe recommended by Wecker (*Maladies des Yeux*, Paris, 1868, T. i., p. 890). I expect but little from them.

From the preceding the reader will readily conclude that I have been unable to give in my adhesion to *incising the strictured portion*, and subsequently dilating. The instrument designed to accomplish this can hardly be introduced and manipulated without simultaneously injuring parts which it was not intended to touch. In reply to authors who claim to have thus succeeded, I can only state that I have every reason to be satisfied with the treatment proposed by Bowman—with the exclusion of the larger probes. The results, however, which have induced Warlemont (*Ann. d'Ocul.*, T. lx.)

to eulogize the method of Stilling* (Casel, 1868) should lead to its farther trial.

In *fistulæ of the lachrymal sac*, I never introduce the probe through them, but through the slit-up canaliculus. It is well known that *fistulæ* which have been used a long time for the introduction of probes, pieces of catgut, &c., are the more difficult to close. The earlier such an opening is closed, the pleasanter and the better it is for the patient.

My recent experience enables me to again recommend in the most emphatic manner, in cases of *inflammation of the lachrymal sac*, a closely fitting pressure bandage, either alone or after slitting up the canaliculus, should that still be possible. It is true success is not constant, that is where the inflammation is advanced, but in such cases it does no harm, and saves the other patients much pain and the inconvenience of the spontaneous or artificial opening of the anterior wall. During the past year I have exhibited three cases of brilliant success among out-patients at the clinique, and had, too, only one failure.

In closing these remarks, I will take occasion to once more allude to the advantages which the plan of Bowman, employed as I have indicated, possesses over other methods. With proper patience and perseverance it surely attains its ends, provided the carrying off of the tears is impeded by no other obstacle, such as swelling of the mucous membrane of the lachrymal sac, with or without stricture; and we shall hardly ever harm the patient by inducing obliteration of the canaliculus or of the nasal duct. We promise him that he will have but little pain, and keep our word. But we need to secure ourselves from unexpected movements of the head, and make the patient sit with his head supported from behind. And, with hardly an exception, patients consent to this plan of treatment, as soon as circumstances admit of their visiting the surgeon daily for a few weeks. Hardly enough stress can be laid on this, when we consider that it is in our power to conduct a rational and safe course of treatment, at a time when the cicatrization of the mucous membrane has but slightly advanced. Even when a fistula has already formed, we can predict its clo-

[* Stilling incises the strictured portion by passing a knife of suitable form through it, and on withdrawal cuts in three or four directions, so as to make the division more complete. No after-treatment is used. He says:—"As soon as the bleeding ceases, the eye, which a few minutes before swam in tears, becomes bright and clear; to the great joy and astonishment of the patients, who often at once state their vision to be considerably improved."—H. D.]

sure, and with it the removal of the facial deformity, in the simplest manner and in a short time. But the greatest advantage lies in the fact that, in case of a relapse, which may occur after every method, not excepting the obliteration of the lachrymal sac (a thing not always quickly accomplished), we have the way open for the introduction of the probe, and that patients living at a distance can be taught, or have their friends taught, how to introduce the probe, thus enabling us to prosecute the cure at our convenience.

MEDICINAL PLANTS INDIGENOUS AT PARÁ, USEFUL IN DYSENTERY AND DIARRHŒA.

By J. F. DA SILVA LIMA, M.D.*

I WAS quite flattered recently by receiving from an eminent physician of Pará, Dr. Francisco da Silva Castro, a valuable donation of three remedial agents of that Province, which have proved efficacious, in the practice of that learned colleague and diligent observer, against the bloody-flux that prevailed in the city of Belem (Pará) the past year.

Learning that an epidemic dysentery prevailed in Bahia, Dr. Silva Castro with laudable generosity hastened to furnish us with these remedies, in order to give to our many sick the advantages derived from his own experience, and to afford us an opportunity of submitting to clinical tests the virtues of these agents in the treatment of this formidable disease. The occasion, however, had passed, by the subsidence of the epidemic, when Dr. Silva Castro's offering came to hand. I hope, nevertheless, to avail myself of it in sporadic cases of this disease, not infrequent amongst us, and in due time to publish the results of the trial, should they appear likely to become useful to the profession.

But as no opportunity has yet arisen, I deem it not improper to state what these agents are, with the information received from our distinguished colleague of their effects, and his modes of administration.

I. *Marupá* or *Marupá-miri*.—On this plant Dr. Silva Castro has favored me with the following extract from his unpublished work:

"Common name—*Marupá* or *marupá-miri* (Pará, Amazonas).

"Scientific name—*Simaruba amara* Paraensis—belongs to the family of Rutaceæ. A small shrub.

"Part employed—Bark of the root.

"Action, or virtues—Tonic; and, in larger doses, emetic.

"Dose and formula—Internally; one or two drachms in decoction with a pound or more of water.

"Remarks.—Very useful in diarrhœa and dysentery; and to be recommended."

According to our colleague, the *marupá* is not only efficacious but quite infallible in the treatment of diarrhœa and dysentery; and was the therapeutic agent relied on when these diseases raged in Pará in the beginning of the year 1868, as may be seen by the following extract from his Report as Inspector of Public Health to the President of the Province. "It should be stated that the remedy most constantly used to combat this disease (dysentery), and which gave the best results, was the bark of the root of the *marupá-miri* (*simaruba amara*), one drachm to a pound of decoction, of which an ounce every two hours was given until the disease yielded—a result generally obtained in four or five days from the first administration. A diet of warm simples from chicken, fresh meat, or rice alone, materially aided recovery.

II. *Pajurá*.—Concerning this Dr. Silva Castro writes:—The *Pajurá* is the nut or seed of that name. It is derived from a large tree, which grows in low or wet lands on the borders of rivers, lakes, &c.; but I have never seen it, and therefore do not know to what family it belongs. The fruit is large and has a delicious flavor. The nut is given in powder, in scruple doses, three or four times a day in any vehicle, and is decidedly efficacious. The Indians and the people of the interior use it with great benefit. I tried it in two refractory cases, and obtained good results."

III. *Pereiorá*, or *precious bark*.—In relation to this plant Dr. Silva Castro sent me a copy of the following passages from Martius (*Systema Materiae Medicæ Vegetabilis Brasiliensis*);—"Laurineæ. *Pereiorá*," or *precious bark*, Rio-Negro (*Mespilodaphne pretiosa*). The bark of this equally great forest tree, celebrated by the name of *canella* among the inhabitants of Orinoco, aromatic in flavor, warming and sweetish, corresponds to true *canella*. Its odor is that of *sassafras*, a mixture of *canella* and roses. It contains, principally in the inner bark, a yellowish ethereal oil, heavier than water, and comparable to the oil of *canella*. Medicinal value is accorded to it principally with the bark of *sassafras*; and its use has been skilfully adjusted in decoctions, infusions, and baths, for many diseases, as, for

* *Gazeta Medica da Bahia*, Jan. 15, 1869.