

On lacrymal obstructions, treated on Mr. Bowman's plan.

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ON

LACRYMAL OBSTRUCTIONS,

TREATED ON

MR. BOWMAN'S PLAN.

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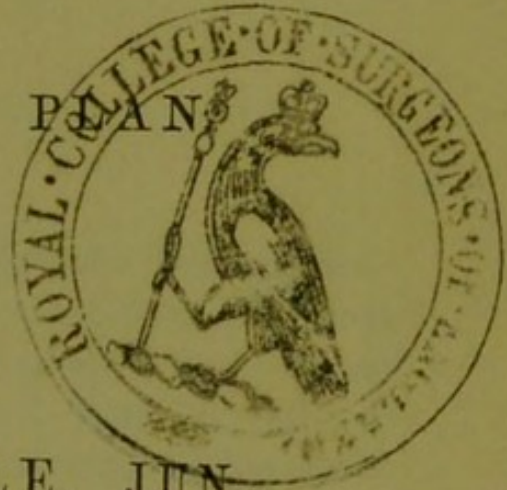
1827

ON

LACRYMAL OBSTRUCTIONS,

TREATED ON

MR. BOWMAN'S PLAN



BY

T. PRIDGIN TEALE, JUN.,

M.A. Oxon., F.R.C.S.

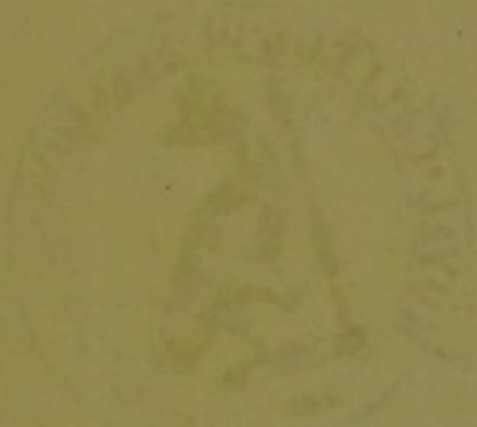
LECTURER ON ANATOMY IN THE LEEDS SCHOOL OF MEDICINE.

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ON LACRYMAL OBSTRUCTIONS.

HAVING adopted for more than two years the mode of treatment proposed by Mr. Bowman for the relief of obstructions of the tear-passages, and published by him in the first number of the Ophthalmic Hospital Reports, I think it right to contribute such evidence as I possess towards the formation of a just estimate of its value. With this view I will take a survey of all such cases as have come under my care.

Before considering the cases themselves, I will describe in detail the mode in which I have usually performed the operation. In so doing I shall unavoidably have to reproduce much that is laid down in Mr. Bowman's valuable paper.

Mode of Operating.—Critchett's grooved probe is introduced vertically into the lower punctum, and then passed in a horizontal direction along the canaliculus, and, if possible, into the lacrymal sac, so that its point may rest firmly against the nasal wall of the sac. Should this punctum be too small to admit the probe, it may be enlarged with the point of a cataract-knife, or an attempt may be made to pass the probe through the upper punctum and canal. The entrance of the probe into a distended sac may, in most cases, be easily known; since pressure of the probe outside the sac renders it more tense, whereas little or no increase of tension takes

place on pressing the probe if it has fairly entered the sac. In cases in which the sac is not distended, the arrest of the probe in the canaliculus external to the sac may be inferred, and pressure with the probe causes a dimpling of the skin over the tendo oculi. The canal is then slit up by a common Beer's knife, the point of which may be carried along the groove in the probe until it is arrested by the termination of the groove; at this stage, in order to free the knife from the groove, the probe may be rotated on its axis without changing the direction of the knife, which may then be thrust onwards until it is arrested by the nasal wall of the sac. A sufficient opening into the sac may thus be secured.

This mode of dividing the canaliculus differs somewhat from that of Mr. Bowman, in which the canal is not slit up beyond the caruncle. He is able thereby to introduce into the sac his largest probe (No. 6) through the unwounded part of the canal. Mr. Bowman's mode, which I have occasionally adopted, has the advantage over the other of inflicting a smaller surgical wound. My reasons for generally adopting the complete division of the canaliculus are,—

1st. That it is more easy to introduce the probe into the sac, both at the time of the operation, and, subsequently, should the probing be performed at long intervals.

2nd. That the patient appears to suffer less from the introduction of the larger probes into the sac.

3rd. That a probe two or three sizes larger than Mr. Bowman's No. 6 can be used without difficulty from the commencement.

4th. That I have not hitherto observed any evil resulting from it.

After slitting up the canaliculus I have seldom found any difficulty in keeping it open, as in most instances the lacrymal passages were in a state of chronic inflammation consequent upon obstruction of the nasal duct, a condition

unfavourable to immediate union. In the only case in which

I met with much difficulty the punctum was strictured, but there was no attendant irritation of the mucous lining of the canal. In such a case it might be well to excite a temporary irritation of the newly-cut edges by the application of sulphate of copper.

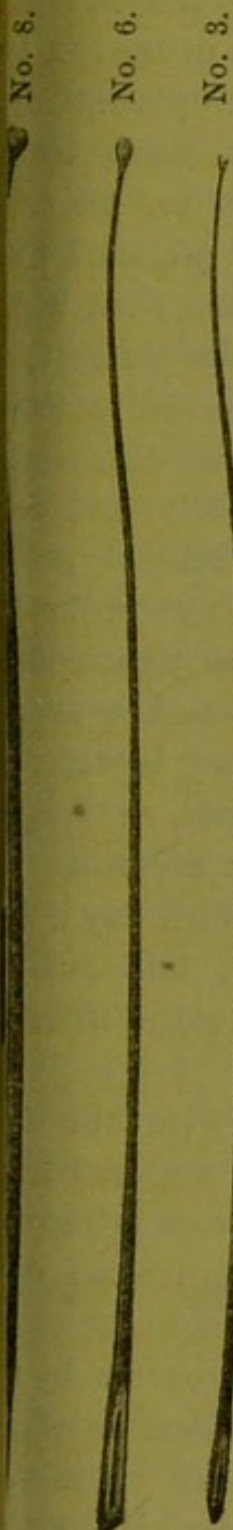
I have seen Mr. Bowman use a convenient substitute for the grooved probe and cataract-knife, namely, a narrow-bladed knife, with a blunt point, which he introduces at the punctum and carries along the canaliculus to the extent required.

Entrance into the sac having been secured, one of the larger probes is passed down to the strictured part. If the obstruction yields easily, the probe is pressed on till it reaches the floor of the nostril. If, however, it does not yield to moderate force, it is better to delay further efforts for a few days. This allows time for the parts to become less swollen and irritable from the relief afforded by the free division of the canaliculus; and, at a second attempt the probe may be pressed more boldly against the strictured part.

The probes which I have used are of two kinds; first, the series 1 to 6 described by Mr. Bowman,* which are uniform in calibre and are curved in two planes to correspond with the nearly spiral shape of the nasal duct; secondly, bulbed probes,† the size of

bulb in two of them being equivalent to Bowman's No. 3

* Ophthalmic Hospital Reports, No. 1, for October, 1857.
No. 8 = wire-gauge 16; No. 6 = wire-gauge 17; No. 3 = Bowman's
No. 3.—These measurements apply to the bulb.



and 6 respectively; and a third probe, having a bulb two sizes larger than No. 6, which I have called No. 8. The bulb of No. 8 is of the size of the ordinary wire gauge No. 1.

These bulbed probes are curved in one plane only in the narrow part above the bulb allowing them to lie in, and in some degree to adapt themselves to, the irregular course of the nasal duct. The bulbed probes I find perhaps from habit, more easy of introduction than Bowman's, and I think they give less pain to the patient. I prefer Bowman's larger probe when any considerable pressure is required to overcome an obstruction, as the direction of the pressure can be made thereby more vertically, and more in the axis of the nasal duct, than by the bulbed probes which are curved only in one plane. After the probe has been once passed through the nasal duct, the treatment is usually very simple. The probe may be passed a second time, if necessary, at the end of a week, and may be repeated weekly, or at progressively increasing intervals, as long as the epiphora continues to relapse. On first adopting this treatment I used the probe every second or third day; but finding the frequent repetition unnecessary, and perhaps injurious, I have been gradually led to allow longer intervals to elapse between each operation.

In my earlier cases I used the styles with the ends tapered, and bent at a right angle, formerly suggested, but generally laid aside, by Mr. Bowman. These were introduced through the divided canaliculus into the sac and nasal duct, and allowed to remain for periods of four, eight, or twelve hours. They appeared, however, to retard progress by the irritation which they caused. Since the publication of Mr. Bowman's paper in November, 1857, in which he advised the "intermittent use of probes," I have never had recourse to these bent ones, though exceptional cases may occur in which they may prove of service.

When a patient has been free from epiphora for a month,

he may be released from further treatment, unless there should be any relapse.

Classification of Cases.—I have records of thirty-seven cases of epiphora, four of which (Nos. 1, 21, 22, 32) have not been put under treatment. The remaining thirty-three may be arranged in two chief groups: one, in which the lacrymal sac is distended with contents more or less fluid, the obstruction to the passage of tears being situated in the nasal duct; the second, in which the lacrymal sac is not distended, its cavity being much reduced in size, the nasal duct narrowed throughout its whole extent, and the lacrymal canaliculi generally strictured in some part of their course. The first group may be further subdivided into those in which there is distension of the sac without fistula, and those in which the disease has proceeded to fistula.

It might be expected that a fourth group should be mentioned, in which the obstruction is situated in the canaliculi only, or in which the punctum, from being everted, cannot catch the tears. This group is omitted, because the only two or three cases of the kind which I have met with required further treatment afterwards, the nasal duct not being pervious.

I propose, therefore, to arrange the cases under the three following heads:—

Table I. Cases of Distended Sac, without Fistula.

Table II.—Cases in which Distension of the Sac has been followed by Fistula.

Table III. Cases in which the Sac is not Distended, and there is no Fistula.

TABLE I.—CASES OF DISTENDED SAC, WITHOUT FISTULA.

No.	Date.	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
2	July, 1857	Miss H. 50.	5 months.	She was a fortnight under my care, and then left Leeds. Since then she has passed a probe herself frequently, and now uses it once in six or eight weeks, on the relapse of epiphora.	At first Bowman styles were introduced by the alveolar canaliculus, and allowed to remain a few hours several times a-week. She now merely passes a probe, and withdraws it immediately.
3	Nov. 1857	Mrs. M. 56.	8 or 10 months.	Cured. The probe was passed occasionally for about a year, at first twice a-week, afterwards every five or six weeks.	At first Bowman styles were used, being left in the duct a few hours afterwards bulbed probes were passed, and immediately withdrawn.
4	Nov. 1857	Mrs. H.	..	After division of canaliculus refused further treatment.	No escape of contents by puncta, nor by nasal duct. Sac filled with a thick fluid, containing cholesterin.
7	Dec. 1857	Mrs. R.	3 years.	Cured. No return of epiphora since the probe was first used.	Probe passed into the nostril twice only.
8	Dec. 1857	Mrs. C.	Since childhood.	Relieved. Sac does not fill, and the epiphora is less than before the operation.	Probe used once after which she could not attend for further treatment.
13	April 1858	Mrs. C.	More than 3 years.	Cured in one month. The epiphora relapsed a few months afterwards, but ceased after once using the probe. Bulbed probe passed five times.	Sac inflamed and abscess threatened. The pain and swelling subsided rapidly after passing the probe.
18	Aug. 1858	Mrs. J.	..	Relieved. Probes used for a fortnight; after which she ceased to attend. The epiphora has since returned.	Nasal duct tight and painful. Bulbed probe, No. 6, used.

	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
Dec. 1858	Capt. B.	Many years. Right side.	Cured. No difference in comfort between the two eyes. On rare occasions the sac fills to a small extent. Probes were passed five times during two months.	The obstruction in the nasal duct was firm, almost like bone, and was overcome by Bowman's No. 6 probe; afterwards bulbed probes, Nos. 6 and 8, were used.
Feb. 1859	R. H. 18.	2 years. Right side. Left side.	Relieved. Treatment has been recently resumed.	The epiphora apparently kept up by the tender state of the nostrils. No. 8 probe passes easily.
May, 1859	Master C. 11.	6 years.	Cured. The probe was passed four times during four months.	The obstruction in the nasal duct was firm, but short. Bowman's probe, No. 4, was used.
May, 1859	Mrs. M.	Right side—a few weeks. Left side—a fistula 5 years.	Cured. Bulbed probes, Nos. 6 and 8, passed four times during three months. Spontaneous recovery.	Much disfigured by swelling of the lacrymal regions. On the left side a fistulous sore of five years' standing, which healed spontaneously a few days after the commencement of treatment of the right lacrymal sac, the epiphora ceasing at the same time.
July, 1859	George G.	A few months.	Relieved. The epiphora still relapses. The bulbed probes have been used once every five or six weeks.	Acute inflammation of the sac, the eye almost closed by swelling of the lids. After a bulbed probe had been passed through the nasal duct, the pain and inflammation rapidly subsided.
July, 1859	Mrs. S.	Right side. Left side.	Probe passed two or three times; after which she refused to continue the treatment.	Nasal ducts very sensitive.

No.	Date.	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
31	Aug. 1, 1859	Josh. H.	1 year.	Still under treatment. No. 8 passes easily. The eye waters in a cold wind, occasionally in the house. Probes used about ten times.	Epiphora kept by inflammation of the mucous membrane of nostril.
33	Sept. 1859	Mrs. R.	18 years. Right side. Left side.	Relieved. Still under treatment. Bulbed probe, No. 8, passes easily. The epiphora has not ceased to relapse.	
34	Sept. 1859	R. T. 74.	A few months.	Relieved. Probe passed twice during a fortnight; after which he left town.	Acute inflammation of the sac, threatening abscess. Probe passed. Immediate relief, and rapid abatement of inflammation. Obstruction very and short.
35	Sept. 1859	Mary B. 20.	..	Nearly well; occasionally slight epiphora. Probe used six times in four months.	A very firm, short, obstruction in the nasal duct.
36	Sept. 22, 1859 Oct. 31.	Mrs. H. ,,	Left side. 2 or 3 years Right side.	Cured. Probe passed once only. Cured. Probe passed once only.	No. 6 bulbed probe used. Canaliculus slit up to the runicle, not as far as the sac.
37	Sept. 1859	Mrs. C.	5 years.	Cured. Probe passed once only.	Canaliculus slit to the sac. Bulbed probe No. 8 used.

Remarks on Table I.—The cases collected in this table form a class in which the value of Mr. Bowman's plan of treatment is most conspicuous. As they are for the most part cases in which distension of the sac is unaccompanied by acute inflammation, they would formerly have been virtually cured without treatment; for to make a wound through the skin into the sac for the purpose of introducing a style would hardly have been thought justifiable, and any other treatment

which did not mechanically open the closed nasal duct would have been almost useless ; while, at the same time, in addition to the annoyance of the epiphora, the patient was in perpetual danger of acute inflammation of the sac, with its consequences—abscess and fistula. Of all cases of epiphora, these have proved the most easy to treat, and the least liable to relapse, the treatment being completed in the shortest time, and with the least distress to the patient.

The following are the characters of this class. The lacrymal sac is distended, forming a small tumour near the inner canthus. Its contents vary from simple tears to pus, and even to a more consistent material containing cholesterin, and may generally be discharged by pressure either into the nose, or through the puncta lacrymalia. Sometimes, however, they cannot be pressed out at all. This condition may long remain passive, even for years ; but, generally, sooner or later the distended sac becomes the seat of acute inflammation, which is rapidly followed by abscess and fistula.

The nasal duct in the majority of these cases is obstructed at a single point near its commencement, and is of natural calibre below the stricture. Sometimes it is narrow and tender throughout its whole course. The nature of the short obstructions is doubtful, as an opportunity of dissecting such conditions rarely occurs. Some of them offer but little resistance to the probe ; others are so firm as to give almost the sensation of bone, requiring considerable pressure to overcome them. These latter show little tendency to relapse after the probe has been once passed through them. In Cases 36 and 37, which were of this kind, there was no return of obstruction after once passing the probe.

Where the strictured part is very limited in extent and the rest of the duct healthy, mechanical treatment by the probe alone suffices. When, however, the duct is tight and painful throughout its whole length, and still more when the mucous

membrane of the nostrils is swollen and sensitive, there is usually an unhealthy condition of the surrounding tissue. Sometimes also the obstruction of the duct itself depends on irritation extending from the periosteum of neighbouring bone, and even from inflammation of the lacrymal passage of the opposite side. In such cases there is often need for auxiliary treatment both general and local, the treatment being usually more protracted, and the obstruction more liable to relapse. The canaliculi in this class are generally free from obstruction, and are often dilated, a condition which greatly facilitates the early steps of the operation. In rare cases they are strictured so that the contents of the sac cannot be pressed out through the puncta. Should this latter condition exist, an attempt may be made to dilate the narrow part of the canal with fine probes. If these attempts do not speedily succeed, the cataract-knife guided to the stricture by the grooved probe may be carefully thrust onwards, dividing its way through the stricture into the sac.

When the sac becomes distended again after the probe has been passed into the nostril, the patient should be directed to press out its contents many times daily. The sac is thereby relieved not only from distension, but also from the lodgment of irritating secretions.

It happens occasionally that the epiphora repeatedly recurs, although the largest probe, No. 8, may be passed along the nasal duct without resistance. It would seem as if there were in such cases a soft or œdematous swelling of the lining of the duct, which yielded before the probe, yet closed the passage against the flow of tears. In some cases no doubt the condition of the mucous membrane of the nose at the lower opening of the duct is the chief cause of the obstruction. In No. 15 of Table II. the interior of the nostril was swollen and ulcerated, and the probe, although passing easily along the duct, gave great pain as it reached the nostril.

When the sac has become acutely inflamed and suppura-

on is threatened, it may be a question what mode of treatment it is best to adopt. In Cases 13, 27, and 34, the lower canaliculus was slit up to the sac, and a full-sized probe passed down the nasal duct into the nose. Immediate relief to the suffering, and rapid subsidence of the redness and swelling, were the result, and there was no formation of fistula. In Case 17 of Table II. a free incision was made through the inflamed skin into the sac. After a few days, when the swelling had considerably abated, the canal was slit up and the probe passed into the nose. The incision through the skin soon healed, leaving a hardly perceptible scar. The epiphora ceased after a few weeks' use of the probe, being liable to occasional relapse.

From these cases it would appear that immediate treatment by probing of the nasal duct may arrest threatened abscess, and also that temporary relief may be obtained to the inflamed parts by incision through the skin, without material prejudice to the result or visible scar, provided that the probing of the nasal duct be adopted soon after the relief has been obtained by incision. As a general rule, however, it may be stated that the sooner the probing of the duct can be adopted after the sac has inflamed the more rapid will be the recovery ; but that it is much better to adopt this treatment before the sac has inflamed.

In further illustration of this subject, Case 15 of Table II. may be referred to. The lacrymal sac being distended, became inflamed, but not acutely, and the surrounding tissues were hardened and not much swollen. The lower canaliculus was slit up, and a probe passed into the nose. The hardness, however, continued for a few weeks, until a small abscess formed beneath the skin, but external to the sac. To avoid a scar I adopted the following treatment at the suggestion of Mr. Bowman, who saw the case. A narrow-bladed knife having been introduced along the slit canaliculus into the sac, was then turned against its anterior wall, so that a

free communication was established between the sac and abscess overlying it without causing an external wound. The patient was requested to press the contents of the abscess into the sac two or three times a-day. The incision had to be repeated at the end of a fortnight, after which the abscess disappeared.

TABLE II.—CASES IN WHICH DISTENSION OF THE SAC HAD BEEN FOLLOWED BY FISTULA.

No.	Date.	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
9	Jan. 1858	J. B. 27.	Left side—Epiphora 7 years; fistula 6 years.	Relieved. At the end of nine months the fistula, and a large ulcer of the nose resulting from it, were healed. Epiphora continued, but in a moderate degree.	As it was impossible to restore the canal of the nasal duct, the lacrymal was obliterated by M. Desmarres' operation.
			Right side—Epiphora; no fistula.	Epiphora continues.	Several attempts to restore the nasal duct were made without success.
10	Feb. 1858	Mrs. B. 50.	Right side—Epiphora 8 years; fistula 1 month.	Cured. Fistula healed in a fortnight. Epiphora ceased after five months. Probes passed about once a month.	Nasal region much swollen, and patient in feeble health. After the first two months the probe was passed by her own attendant. Bulbous probe, No. 8, passed easily on both sides.
			Left side—Epiphora 8 years; fistula 1 month.	Relieved. Fistula healed in five weeks. Occasional relapse of epiphora, requiring the probe once in two or three months.	
11	Mar. 1858	Mrs. T. 50.	Epiphora 6 months; fistula 3 months.	Cured. Fistula healed in a month, shortly after which it opened out for a few days, from the neglect of the epiphora. The epiphora ceased in about twelve months, during which the probe was used twelve times.	The nasal duct was narrow and sensitive in its whole extent, so that the passage of the probe caused much pain.

Date.	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
June 1858	Miss T. 13.	Left side—Style had been worn for a year. Right side.	Nearly well. The fistula healed up at the end of six months; but it re-opens at the end of four or five weeks after the probe has been passed, from relapse of the epiphora. Relieved. A few months since the right sac became distended and inflamed. Canal slit up, and bulbed probes passed about eight times in six months.	The style was at once removed, and treatment by probing the nasal duct through the slit canaliculus adopted. The probe is passed once in six or eight weeks. A small abscess, which had formed outside the sac, was made to communicate with it by passing a knife along the slit canal into the interior of the sac, and incising its wall from within.
July, 1858	Mrs. F. 36.	Epiphora 6 years; fistula a few days.	Cured. The fistula healed in three or four days. The epiphora relapsed occasionally for a year. She has a temporary epiphora if out of health	Acute inflammation of the sac temporarily relieved by incision through the skin. When the swelling subsided, the canaliculus was slit up, and a bulbed probe was passed down the nasal duct.

Remarks on Table II.—This series illustrates several phases of fistula lacrymalis, and augurs favourably of the result of cases when treated by this new plan. In three of them (nos. 10, 11, and 15)—the fistula was recent, having existed less than a month, and was healed up within a month of the commencement of treatment by probing. In one only did the fistula open out again, and that was shortly after it had healed, and only for a few days. Since its second closure there has been no relapse. It appears, therefore, probable that cases of moderately recent fistula and lacrymal abscess

are completely under command. Case 15 is one of much interest. This patient, aged about thirteen years, had worn a style, introduced in the old method, for nearly a year. She was much disfigured by swelling of the tissues about the bridge of the nose, and by ulceration of the skin around the fistulous opening in which the style was lodged. There was also a constant pustular ophthalmia, resulting from the neighbouring irritation. The style having been removed, treatment by probing through the slit canaliculus was at once commenced and continued for nearly a year and a half, the probe being used at intervals varying from four to six weeks. At first the progress was slow, in consequence of the sensitive condition of the parts and the delicate health of the patient, so that the fistula did not close until the end of six months. From that period till recently the fistula has constantly been healed up for two or three weeks after each probing, and then has opened out at a small point, in consequence of the relapsing obstruction of the nasal duct. Since the last probing, however,—more than two months ago,—the fistula has remained closed; and, as the parts surrounding the lacrymal sac have almost recovered their natural state, it is probable that no further treatment may be required.

In Case No. 9 there was a fistula of six years' standing which had given rise to a large sore over the sac, and on the side of the nose, the ulcerated surface being so thickened and blended with the tissues beneath as to resemble, on a small scale, the periosteal ulcer sometimes found over the tibia. Attempts were made to restore the channel of the nasal duct but without success. The only resource left appeared to be to obliterate the cavity of the lacrymal sac, and thus to get away with the permanent source of the fistula. Desmarres' operation was therefore adopted. The lacrymal sac having been laid open, the beaked cautery was freely applied to the lining membrane. A few weeks later, a fistulous channel still remaining, this operation was repeated. During the

the ulcerated surface, not having improved by the complete division of the fistula and its branches, was treated by several applications of caustic potash. At the end of nine months from the commencement of treatment he reported himself well; the ulcer and fistula had healed, and the overflow of tears resulting from obliteration of the sac caused little inconvenience. This case illustrates a condition in which obliteration of the lacrymal sac may be adopted with advantage, but only as a last resource after all attempts to restore the nasal duct have failed. Whether or not the plan of M. Jamarres be the best mode of accomplishing this, I am not prepared to say. It is certainly difficult to apply with accuracy a heated cautery to the bottom of a wound exposing the interior of the lacrymal sac. Possibly some caustic substance would do the work more easily and effectually. As to the value of obliteration of the sac in rare cases there can not be much doubt. By putting an end to the ulceration and fistula connected with the tear-passages, the irritable condition of the conjunctiva is diminished, if not terminated. As being accomplished, the epiphora is more than half cured; since the flow of tears, being in an unirritated eye occasional, becomes only a perpetual epiphora under irritation.

TABLE III.—CASES IN WHICH THE LACRYMAL SAC IS NOT DISTENDED, AND THERE IS NO FISTULA.

Date.	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
Nov. 1857	J. B. 23.	Right side—since childhood. Left side.	Cured in five months. Probes used at first once a week; afterwards once a fortnight. Cured in five months.	At first Bowman's style was used, being introduced through the canaliculus, and left in the nasal duct for a few hours. Afterwards bulbed probes were passed, but not allowed to remain.

No.	Date.	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
6	Nov. 1857	J. T.	..	After probe No. 6 had been once passed into the nostril, he refused further treatment, fearing the pain.	The punctum everted, was up. As the phora continued the probe afterwards passed down the duct.
12	April 1858	Mr. T.	Right side—several years. Left side—several years.	Cured. Probes used during two months. At the end of two months he ceased to attend, although the epiphora continued. Treatment of this eye has been recently resumed.	At first small probes were used; afterwards larger. The nasal ducts were very sensitive.
14	May, 1858	G. T. 10.	1 year.	Relieved. Probe passed once only. The eye waters occasionally, but so slightly that the probe has not again been required.	The punctum, bstricted, was up. After a months, as it remained a decided epiphora, a probe was passed into nose.
16	June 1858	Miss B.	Right and left.	Probes passed during five months. The epiphora ceased for about two months, and then relapsed, and has not again been treated.	The nasal ducts tight and sensitive.
20	Feb 4 1859	Miss R.	2 years.	Still under treatment. Epiphora ceases for four or five weeks after each use of the probes, and then relapses. Probes passed eight times in ten months.	Nasal duct sensitive, but very tight. But probe, No. 6, passes easily.
24	May, 1859	Mrs. G.	2 or 3 years. Right side and left	Relieved. No. 6 probe has been passed about once a month. The epiphora still relapses. Probe passed about eight times in seven months.	Nasal ducts very narrow throat.

	Name and Age.	Duration of Epiphora.	Duration of Treatment, and Result.	Remarks.
Case 9	Mrs. C.	Several years.	Cured at the end of five weeks. Probes passed three times.	The everted punctum was first slit up. This failing to cure the epiphora, the nasal duct was treated by bulbed probes.
Case 9	J. C. Esq.	Several years.	Relieved. Still under treatment. Bulbed probes Nos. 6 and 8 passed four times in five months.	The whole nasal duct tight and very tender. At the last visit a catgut bougie was passed and allowed to remain half-an-hour. No irritation followed it. He can now blow air through the lacrymal passages.

Remarks on Table III.—The cases under this head strongly contrast with those in Table I., and require a guarded prognosis as to the result and duration of the treatment, and more than usual care in each stage of its progress.

The following are their general characters:—The lacrymal sac is not distended, its walls being collapsed or perhaps thickened so that there is little or no space to contain the tears. The nasal duct is contracted throughout its whole length, and is sensitive when traversed by the probe. Not unfrequently the canaliculi are strictured either at some point or in their whole extent. Hence the introduction of the probe is difficult, and progress is arrested at almost every stage. The treatment of these cases is also generally slow,—and the probing must be repeated at intervals for many weeks, or perhaps months. On the other hand, there is not, as in Class No. I., a tendency to acute inflammation of the sac, and, therefore, no danger of abscess or fistula. The only evil is the epiphora, which appears to be excessive or moderate in proportion to

the amount of irritation of the lacrymal canaliculi. When these canals are strictured at the puncta, there is usually a quiescent state of their lining membrane, and in consequence a less constant flow of tears. It moreover not unfrequently happens that a patient feeling partial relief of the epiphora at division of the inflamed lacrymal canal, refuses to submit to further treatment through dread of the pain which is caused by probing the nasal duct in this particular class of cases. From the foregoing considerations the following questions arise,—Seeing that such cases are not liable to abscess or fistula, and that the epiphora is often much reduced by slitting up the lacrymal canals, is it desirable to urge a patient to endure the pain generally entailed by treatment of the nasal duct? Perhaps in certain cases, where the patient is sensitive and timid it may be well to desist from further treatment, and rest contented with the partial relief. In most, however, I should be inclined to persevere, being convinced that the instances are rare in which a perfect cure can be obtained.

In this list there are nine cases, showing the following results. Three are cured, having ceased to require treatment for several months. Of these, No. 5 had suffered from epiphora of both eyes for more than fifteen years. There was hardly a trace of cavity, either of lacrymal sac or nasal duct. He reported himself well at the end of five months, both eyes admitting bulbed probe No. 8. No. 12 was under treatment two or three months, and then ceased to attend. The epiphora of the right side was cured, that on the left continuing. Case 28 was cured after being five weeks under care.

Three cases, Nos. 20, 24, 30, are still under treatment, the epiphora not having yet ceased to relapse. I have no doubt of their ending well, as in all three a full-sized probe can be passed into the nostril. In one of them, No. 30, where the nasal duct is particularly tight and painful, I have used, with very good effect, a mode of treatment from which it is

by that much assistance may be obtained in this and other cases. After the bulbed probe No. 6 had been passed and withdrawn, a catgut bougie of the same size was introduced and eased along the nasal duct. At the end of half-an-hour the catgut was removed, having swollen to the size of probe No. 8. For rapid dilatation of the duct this plan seems preferable to leaving a metal probe for some time in the duct which cannot exert a perfectly uniform pressure throughout the narrow and tortuous canal.

The remaining three cases may be considered unsuccessful ; through failure of the principle of the treatment, but more, I think, from dread of the pain caused by the probe, and from annoyance from the epiphora not being excessive, the patients discontinued the treatment. In all three a full-sized probe could be passed into the nose, and one of them, Case No. 4, was free from epiphora for a month or two after being under my care.

Conclusion.—From the evidence in favour of this plan of treatment of epiphora brought forward by Mr. Bowman, confirmed as it has been by an interesting series of cases published by Mr. Vose Solomon, as well as by those which I now present, and from the fact that it has been adopted by Graefe, Donders, and Desmarres, it may be regarded as established that the old use of the style is no longer requisite in the treatment of any form of lacrymal obstruction. Though a course of treatment which sometimes extends to several months may appear prolonged, it is still short compared with all former modes ; and the delay is of little consequence, we consider that, even in the most tedious cases, it involves only an occasional use of the probe, which confers an immunity from epiphora more or less complete in the intervals.

