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SOME CASES OF OBSTRUCTIVE DISEASE OF THE LACHRYMAL PASSAGES AND THE ASSOCIATED INTRA-NASAL LESIONS.

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[Read March 23, 1892.]

The intimate relationship between diseases of the lachrymal apparatus—that is, of the drainage system of the eye—and various types of inflammatory changes in the nasal mucous membrane is an old story. Indeed, the close association of ocular and naso-pharyngeal disease is not limited to these conditions. The great majority of phlyctenular ophthalmias depend upon some type of rhinitis, and are often the direct outcome of adenoid growths in the pharynx. Many obscure symptoms which we are wont to describe under the general term asthenopia, have been shown to depend upon intra-nasal disease, and a variety of orbital, ocular, and post-ocular pains are frequently "referred pains;" that is, their origin is from some lesion within the nasal cavity, the frontal sinus, ethmoid cells, or antrum of Highmore. In fact, as Harrison Allen has remarked, a good deal of the success of treatment depends upon a proper attention "to the commonality of the various parts of the cephalic mucous membrane."

The following cases are reported, not because they illustrate new points, but because they emphasize some old ones, and still more because they emphasize that the cure of obstructive lachrymal disease is materially facilitated not merely by the ordinary measures adopted for rendering the passages patent, in association with what may be called routine intra-nasal treatment (for I take it no one attempts to treat lachrymal disease without due attention to the nasal mucous membrane), but that more radical measures are frequently of value when applied to the nasal chambers and the vault of the pharynx, which in the vast majority of cases are the regions primarily affected.

CASE I. *Purulent dacryocystitis; traces of old rhinitis and abnormal shape of the lower turbinated bone.*—D. D., a boy aged seven years, reported for treatment November 3, 1890. Three years ago pus began to exude from the right punctum lachrymale, and in spite of treatment this condition has continued ever since. The boy was healthy in other respects; he had never suffered from measles or scarlet fever; was free from the evidences of inherited syphilis, and had sustained no injury. His voice was slightly nasal in tone.

The lower canaliculus was slit, and a firm stricture was found at the beginning of the nasal duct. The probe was not forced; neither was the stricture incised.

The patient was referred to Dr. Alexander MacCoy for nasal examination, who reported as follows: "The right nostril shows an abnormal shape of the lower turbinated bone, also some evidence of a severe rhinitis during the past. I believe that the position and form of the lower turbinated body have had much to do with the disease of the duct on account of the obstruction to its entrance at its lower portion into the nasal chamber. The boy also has a pharyngeal tonsil which obstructs the posterior nares somewhat." Dr. MacCoy undertook the treatment of the nasal condition, and after a few days the stricture was incised, the probe passed, and the usual treatment instituted. After the intra-nasal obstruction was removed the epiphora ceased, and has not reappeared.

I have referred to this case in a paper on the use of pyoktanin in dacryocystitis (*University Medical Magazine*, vol. iii. p. 181), and may repeat that my colleague, Dr. Gould, as well as myself, has had favorable effects from this drug in the treatment of unhealthy lachrymal secretions.

The case is now utilized, however, to illustrate what seems to me a very important point to which Dr. MacCoy calls attention in his report, namely, that although the stricture of the duct, which in this case existed high up, was penetrated, and although the fluids and the probe passed readily, the epiphora continued because of the malposition of the turbinated bone. Indeed, this obstruction sometimes exists only in the form of a small flap of mucous membrane, which closes the entrance of the duct into the inferior meatus very much as a valve would do. This effectually prevents the drainage of the eye, and unless it is removed good results will not follow. In this particular instance it was very easy to see the obstruction by first passing a probe and then exposing the entrance of the duct into the meatus by means of a nasal speculum—a slight precaution which will often lead to the discovery of the cause of a persistent overflow of tears in spite of apparent permeability of the passages.

CASE II. *Catarrhal dacryocystitis; bands of adhesion from the inferior turbinated body to the septum.*—Ella H., aged twenty-eight years, reported for

treatment at the Philadelphia Polyclinic, October 24, 1891, on account of an inflammation of the right eye, which had existed for several days. There was a small abscess at the inner margin of the lower lid, with a fistulous communication into the lachrymal sac. A free muco-purulent secretion distended the sac in the form of an ordinary mucocele. The canaliculus had been slit at some previous time, but a probe did not pass readily.

She was referred to the throat department, and examined by Drs. Arthur W. Watson and Walter Freeman, who reported as follows: "Atrophy of both inferior turbinates; unable to obtain a posterior view; former ulceration of the posterior wall of the pharynx; bands of adhesion from the inferior turbinates to the septum; also one from the middle turbinate to the septum on the right side."

Even in the absence of definite history the pharyngeal condition seemed to indicate syphilis. The patient was ordered an astringent lotion, given potassium iodide and bichloride of mercury, and referred to the throat department for treatment. In January of this year an operation was made upon the lower turbinated bone, and the condition has improved without the passage of probes, the secretion and the epiphora having materially lessened.[1]

This case, it seems, illustrates the ordinary intra-nasal lesions which were evidently at the bottom of the lachrymal trouble, and is further interesting because these lesions gave confirmatory evidence of the syphilitic condition, so much so that relief was facilitated by the proper constitutional remedies.

CASE III. *Lachrymal abscess; spur on the septum opposite the middle turbinated bone; chronic pharyngitis.*—Sarah S., aged forty-five years, reported for treatment at the Philadelphia Polyclinic, November 24, 1891. In April, 1891, epiphora began in the left eye, for which she seems to have undergone no treatment. It continued until about one week ago, when suppuration of the lachrymal sac took place. When she presented herself there was a very marked lachrymal abscess. The pus was evacuated by an external incision, the sac freely irrigated with an antiseptic fluid, and the patient referred to Drs. Watson and Freeman for an examination.

They reported as follows: "On the left side there is a spur on the septum opposite the middle turbinated bone; also hypertrophy of the tissues. The turbinates are small. There is chronic pharyngitis, a thick phlegm covering the tissues."

Unfortunately this patient has failed to report with any regularity, and the ultimate result cannot be given. This example illustrates the course of so many of these cases, namely, a chronic pharyngitis and hypertrophy and inflammation of the intra-nasal mucous membrane; involvement of the lachrymo-nasal duct; epiphora, owing to an ob-

[1] Recently there has been a relapse in this case. Attention to treatment has not been regular.

struction primarily from swelling of the mucous membrane, and later from the formation of a positive stricture. Under the influence of the pressure and of the stricture, the fluids of the conjunctival sac are not drained, but distending the lachrymal sac, become infective, an abscess forms, and the condition which has been described results.

CASE IV. *Epiphora; atrophic catarrh.*—Jane C., aged sixty years, reported for treatment at the Philadelphia Polyclinic, November 14, 1891, complaining of pain in her eyes, constant epiphora, and inability to read on this account. There was considerable hypermetropia and some astigmatism, and, as epiphora is frequently caused by the strain of uncorrected ametropia, proper glasses were ordered, but the overflow of tears continued. Both canaliculi were then slit. There was narrowing of the ducts, but no stricture, and probe and fluids passed readily. The epiphora improved, but did not disappear.

She was referred to the throat department, and the following report was received: "There is an atrophic condition on both sides, and a spur on the septum on the right side near the opening of the lachrymal duct, but it does not interfere. The closure is probably due to contraction from atrophic changes."

This is a good example of a very common condition, most frequent in elderly people, where there is neither disease of the sac, stricture of the duct, nor pressure from a spur or hypertrophy of the turbinated bodies, but where the obstruction depends upon contraction from atrophic changes.

CASE V. *Phlegmonous dacryocystitis; deflection of the septum; spur on the left side pressing on the inferior turbinated bone.*—Matthew L., aged twenty-seven years, presented himself for treatment on account of an extensive lachrymal abscess with a small opening and widespread infiltration of the tissues, producing a large swelling involving the lower lid and cheek. The abscess was incised, the pus cavity freely washed out, and an antiseptic dressing applied. In a day or two the swelling had subsided, and nothing remained but a slight brawniness of the tissues and a fistulous opening at the point of incision. The canaliculus was slit, but all efforts to introduce the probe proved futile. The patient had been much exposed to weather; had a history of an old injury, but denied syphilis. The obstruction to the tear passages had existed since the early fall.

He was referred to the throat department, and the following report was received: "The septum is irregularly deviated in front; there is a spur on the left side pressing on the inferior turbinated body, which also contains an ulcer in its anterior portion."

He was warned that "catching cold," which would increase the nasal obstruction, would certainly bring about a relapse of the abscess. He went

to work, however, and returned a few days afterward with all of the lesions previously described in a very much more aggravated state. The same treatment was instituted, and he was again referred to the throat department, and on the 23d of February the hypertrophy on the left side was removed. On the same day a probe was passed, and since this time its passage has been repeated. Epiphora still continues, but is decreasing day by day.

This example illustrates the mechanism of relapse in many of the tear-passage cases, in this instance producing a very serious phlegmonous inflammation. Under treatment and rest sufficient drainage takes place to produce amelioration of the symptoms; then swelling from congestion, owing to exposure, is added to the organic obstruction already present, producing complete closure with an exacerbation such as has been detailed.

CASE VI. *Stricture of the nasal duct; moderate hypertrophy of the inferior turbinated on the left side and a spur on the right side.*—Bridget R., aged fifty years, applied for treatment to the throat department of the Philadelphia Polyclinic, and the following lesions were found: A moderate amount of hypertrophy of the left inferior turbinated near the nasal duct, and a spur on the septum of the right side close to but not obstructing the opening of the duct. With these lesions there were epiphora, most marked in O. D., and slight lachrymal conjunctivitis. She had not been able for a number of months to use her eyes with any comfort. She was referred by Drs. Watson and Freeman to the eye department. The canaliculi were slit, and a stricture was found at the mouth of each sac. A No. 2 Bowman's probe was passed without difficulty.

It is evident that although there were lesions in the nasal passages, they were not obstructing the duct, but under the influence of the chronic nasal inflammation a stricture had formed in the lachrymal canal.

CASE VII. *Epiphora from swelling of the mucous membrane of the lachrymo-nasal duct; atrophic rhinitis.*—A. K., an unmarried woman, aged twenty-six years, was referred to me by Dr. Ralph W. Seiss, on account of epiphora of the right eye, which had persisted for some time in spite of the nasal treatment. There was no swelling of the lachrymal sac; no catarrhal or purulent secretion, but simply an overflow of tears. The general health was good, the eyes not far from emmetropic, and there was neither asthenopia nor headache.

Dr. Seiss has kindly furnished the following report of the nasal lesions: "Atrophic rhinitis presenting the ordinary appearances of tissue-destruction, combined with some odor and much secondary laryngo-bronchitis."

The canaliculus was slit, and a No. 3 Bowman's probe was passed without meeting a stricture, but with a resistance to its passage which is character-

istic of obstruction from swelling of the mucous membrane. After the passage of this probe the duct was irrigated on several successive days with a solution of boric acid and common salt—without, however, passing the canula into the duct. The fluid trickled readily through the nose. The epiphora stopped after a few treatments, and has never returned, although many months have gone by since she originally reported.

This patient represents a common class of cases of epiphora associated with chronic inflammation of the naso-pharynx. A somewhat similar inflammation occurs in the nasal duct, but does not produce a true stricture; the occlusion is from swelling, not from cicatricial changes. In many cases it is sufficient to do what was performed in this case; in others even milder measures suffice. Above all things, this is an example of a class of cases the successful treatment of which I have learned especially from Dr. Risley, by obeying the principle which he was wont to instil not to be too ready to pass probes and canulas, lest their introduction scrape away some of the mucous membrane, and really do more harm than good. It is unnecessary to do more than medicate the swollen mucous membrane with any solution that is suitable; I like boric acid and common salt very much.

Many more cases might be quoted, but these seven representatives of various classes are sufficient to illustrate the points which I desire to make:

1. A large class of cases exists characterized chiefly by epiphora without catarrhal or purulent secretion, in which the obstruction in the lachrymo-nasal duct depends upon swelling of its mucous membrane, and not upon true stricture. The primary origin of these cases in the great majority of instances is a chronic or subacute post-nasal catarrh. The evident indication is the treatment of the latter condition and the medication of the swollen mucous membrane of the lachrymo-nasal duct, so that it may regain as nearly as possible its natural condition, which it will do without much instrumental interference—an interference that may of itself, if unskilfully performed, be the cause of a cicatrizing band that never originally existed. Case VII. of the series illustrates this class.

2. The life history, if I may so express myself, of many cases of obstructive disease of the lachrymo-nasal duct and the formation of a lachrymal abscess is illustrated by Cases III. and VI. First, a chronic pharyngitis occurs; later, hypertrophy and inflammation of the intra-nasal mucous membrane, followed by swelling of the lining tissue of

the lachrymal duct. Gradually cicatricial changes arise, and a true stricture is formed. The drainage of the conjunctival cul-de-sac ceases; the micrococci natural to the part, and those which readily find access to this region, permeate the contents of the lachrymal sac because this can no longer be emptied; the pathogenic microörganisms exercise their true function, and suppuration occurs.

3. A number of cases develop, chiefly in old people, in which there is epiphora, again without the presence of pus or muco-pus, depending upon obstruction in the lachrymal duct from atrophic changes, the whole being part of a similar atrophic process in the intra-nasal passages, and generally described under the term atrophic catarrh. The obstruction in these instances is not from swelling, not from stricture, but from contraction. Case IV. of the series is an example.

4. A very common cause of an exacerbation of lachrymal disease is due to the pressure of a hypertrophic turbinated body, or similar intra-nasal obstruction, which under treatment has gradually subsided, but which, owing to exposure, swells up again, and exercises its obstructing influence. At once there is occlusion of the lachrymal passages and recrudescence of the symptoms. The very serious nature of such cases is illustrated in Case V. of the series.

5. In every case of local disease the physician should be mindful of constitutional causes; the value of confirmatory evidence by pharyngeal and intra-nasal examination is illustrated in Case II., an example of constitutional syphilis. Local treatment may be very necessary; local treatment without general medication is ineffectual.

6. Finally, I come to the class of cases in which there exists an obstruction at the intra-nasal end of the duct (it may be trivial), permeable by the fluids used in a syringe, but an impassable barrier to the outflow of tears. Even the slightest obstructions, under these circumstances, may defeat the most classical treatment of lachrymal disease. The ready detection of such a lesion is illustrated in Case I. of the series.

It has not been my intention this evening to refer to what are the best means of treating lachrymal disease, except in so far as these are implied by the descriptions of the lesions which existed in the examples I have reported. Whether we believe that small or large probes should be passed; whether we class ourselves with those who believe that the probes should not be used at all; whether we are the advocates of this or that antiseptic and astringent fluid; whether we think that strictures should be incised or should not be incised, or

whether we believe in the permanent wearing of styles or canulas, it is evident that the rational treatment of certain types of obstructive lachrymo-nasal disease must also include not alone the ordinary intra-nasal treatment with sprays and powders, but a systematic and thorough examination of the naso-pharynx, and, if necessary, the best operative interference known to intra-nasal surgery.