

submucous structures; as the product of this in time organizes and contracts, it obliterates in part the erectile tissue underlying the membrane and contracts the latter, a process that is aided by the shrinking of the strong cicatrix of the wound that you have made. Altogether the result will be that the redundant mucous membrane is drawn down into its proper place and remains there; the nasal passages are thus freed.

It may be that a condition will exist where the posterior extremity of the inferior turbinated bone is immensely hypertrophied, so that a tumor is formed in the posterior nares, blocking them up more or less completely. Cauterization will not remove such a growth. It can, however, be readily removed by means of the Jarvis snare. The nasal mucous membrane is first anæsthetized by cocaine. The snare is passed through the nasal passage until it slips over the hypertrophied mass, which is gradually cut away.

The treatment of atrophic rhinitis is a hopeless one. Your only indication is to keep the nasal passages perfectly clean and then lubricated by the use of vaseline, albolene, benzoinol, etc.

FOLLICULAR TONSILLITIS; INTUMESCENT RHINITIS—CAUTERIZATION; HYPERTROPHIC RHINITIS.

CLINICAL LECTURE DELIVERED AT RUSH MEDICAL COLLEGE, CHICAGO.

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CASE I.—This man asked me to look at his throat after he had already made a correct diagnosis of his disease. It is a case of acute follicular tonsillitis. The trouble began night before last with a general feeling of discomfort, followed after a few hours by aching and lameness in every part of his body, accompanied by a sensation of irritation in the left tonsil, which gradually became painful. The next morning after this onset his knees and other joints ached as though with an attack of acute rheumatism. To-day he is sweating freely and still complains of some lameness and headache, and speaks of a feeling of fulness or swelling in the throat, by which his voice is evidently modified. Upon deglutition he experiences pain, the same in amount whether he takes liquids or solids. Often patients complain more upon swallowing liquids than upon swallowing solids; in acute inflammation of the tonsils the reverse is usually true. Upon looking into this patient's throat, I find the tonsils moderately swollen and red; and upon each two or three small, white or yellowish-white patches, which have the appearance of being depressed, and are six or seven millimetres in diameter. The palate and uvula are slightly reddened and relaxed. The pharynx is not markedly so, but it contains an abnormal amount of mucus.

There are not so many of the follicles involved here as we usually find, and I think the depression of the yellowish patches, though characteristic, is somewhat greater than is generally observed. Not

infrequently patients having an attack for the first time are very ill. In such cases, especially in children, the temperature not uncommonly reaches 103° to 105° ; in later attacks it is not apt to be over 102° or 103° . The diagnosis ought, as a rule, to be made readily by simple inspection, but in some instances it is not easy. Occasionally a case beginning as a simple follicular tonsillitis will terminate in scarlatina. In such an event the redness is apt to be more marked upon the fauces, the posterior wall of the pharynx, and the palate, usually diffused, but sometimes in patches; while in tonsillitis redness and swelling are largely confined to the tonsils. If there be local pain in scarlatina, it is within the throat, and is not apt to be accompanied, as in tonsillitis, by stiffness at the angles of the jaws and more or less difficulty in opening the mouth. In the one disease there is the strawberry tongue and commonly the characteristic rash; in the other the tongue is coated with a yellowish fur, and there is seldom an accompanying eruption upon the skin. Some cases of tonsillitis are unquestionably of diphtheritic character. However, in diphtheria the tonsils are not so apt to be enlarged as in the other affection. There is usually no difficulty in opening the mouth, and the thick grayish-white membrane covers a larger area than the lacunar patches in tonsillitis, and may not be confined to the glands. The one or two large patches in diphtheria are distinctly raised above the surface; the usually numerous patches in tonsillitis are depressed, or, if raised, but slightly so. If forcibly detached, in the one case a raw, bleeding surface remains, not so in the other. The temperature in tonsillitis is much higher than in diphtheria, where it may be subnormal. There is apt to be enlargement of the neighboring lymphatic glands in the latter disease, not in the former.

There is, furthermore, in many cases of diphtheria a certain odor which cannot be described, but which I consider peculiar to the disease. I do not know that it is so recognized universally. Though in tonsillitis there is sometimes a very offensive breath, it has not the penetrating, sickening odor peculiar to diphtheria. In an attack of follicular tonsillitis a person is generally ill from four to eight days, after which he makes a rapid recovery without sequelæ. There are rare instances in which slight paralysis follows. Occasionally one recovers in forty-eight hours, or a little longer, without much medicine.

As to treatment. In the very beginning the bowels should be freely opened by a saline or mercurial cathartic. I think also that the recently-introduced antipyretics are valuable, and of these I consider phenacetin most effective in relieving discomfort. In this case I would order ten grains of phenacetin to be repeated each hour two or

three times; no more to be taken for several hours. Its sometimes depressing effects upon the heart may be guarded against by combining caffeine with it. Aconite, opium, and belladonna, in small, frequently-repeated doses, often act satisfactorily in cutting short the disease. The first should be given in half-minim doses of the tincture every fifteen minutes till the occurrence of free perspiration, afterwards once an hour for several doses, and subsequently with less frequency according to its effects. Tincture of opium in minim doses should be given every fifteen minutes till the cessation of pain in the throat, and subsequently at intervals of several hours as indicated; tincture of belladonna in a similar way in half-minim doses. If it is strongly suspected that the case is of rheumatic origin, the anti-rheumatic remedies are of prime importance. It is held by some that a large number of cases are of septic origin; probably some of these are truly diphtheritic in character. In such cases tonics are indicated, especially the tincture of the chloride of iron with strychnine or nux vomica.

As to local medication, I am able to afford most relief by the application of silver nitrate in a solution of sixty grains to the ounce, or of a solution of carbolic acid and tannic acid of each thirty grains, and morphine four grains, in water and glycerin, half an ounce of each. This will smart, but will give the patient great relief for from twelve to eighteen hours, and seems to go far towards checking inflammation. The former solution, if used in the very beginning, will sometimes abort the disease; it is not so efficient after the first forty-eight or seventy-two hours. The case before us has gone on past the worst point. It is already progressing towards recovery. I therefore shall advise simply the administration of tonics combined with a mildly sedative local application, as promising the best results. I shall recommend him to use a solution of about one and a half per cent. of carbolic acid as a gargle every hour, and internally tincture of iron as often as once in three or four hours, and quinine two grains about four times a day, with an occasional mild laxative.

CASE II.—This man complains that his nose stops up when he is lying down. This has troubled him for a year, and it is much the worst on the left side. He complains of the dropping of mucus from the back part of the nose, or, as he expresses it, from the head; and also of a cough at night, which I have no doubt is due to the dropping of mucus into the throat. This increased secretion is due partly to increased activity of the mucous glands, partly to interference with evaporation by occlusion of the passages. When he lies upon his right side the right naris becomes closed, the left naris remaining open;

when he lies upon his left side the left is occluded and the right open. The difficulty which he experiences in breathing is characteristic of the condition which we find in his nose. Inspection with reflected light reveals the turbinated body of the left side so swollen as to half close the normal passage. That of the right side is not swollen so much.

This affection has existed for a year: we therefore expect very little benefit from local medication. In cases of this sort I know of no treatment which will justify a physician in taking a patient's time and money, except the use of the snare or of the cautery in some form. When you have no galvano-cautery, chromic acid may be employed, but it is far inferior to the former agent, both as regards the comfort of the patient and the time necessary to effect a cure. This case shall serve to illustrate the use of the galvano-cautery. The parts should be thoroughly anaesthetized by cocaine in four-per-cent. solution, applied carefully by pledgets of absorbent cotton wrapped on a probe. The cauterization is made by means of the knife-electrode, which, properly connected to a strong battery, is passed flatwise into the naris until it reaches the posterior portion of the turbinated body, when it is turned outward, so that the wire, which is to be heated, comes against the tissue. The current is then turned on and the instrument is drawn forward slowly, burning a groove down to the surface of the bone through the soft parts. If it does not cut rapidly and completely on the first passage it may be moved backward and forward over the same ground. As soon as the front end of the turbinated body is reached, the electrode is lifted from the wound and the current cut off.

The proper heating of the cautery is an important part of the operation. The current should be sufficient to produce a white heat in two seconds. The red heat does not burn sufficiently, and a heat beyond what is requisite produces bleeding by cutting too keenly.

After a cauterization the patient should be seen in the course of four or five days, in order to make certain that there is no adhesion forming. Very often at this time it will be found that the large pellicle or exudation formed as a result of the burn, nearly an eighth of an inch in thickness, may be removed *en masse*. That will give the patient very great relief. It is usually well in this event to touch the part with a solution of silver nitrate about ten grains to the ounce. The patient need not be seen again for about ten days, when the other side of the nose can usually be cauterized; but the procedure can rarely be repeated within a week without starting severe inflammation, in which the side first cauterized is apt to participate; an interval of

two weeks or more should generally be allowed. For forty-eight hours after a cauterization the patient should wear a little cotton in the nostril when out of doors. For home use I give a powder containing four per cent. of cocaine, and direct the patient to use a small amount of it four or five times a day for four or five days, with a view to keeping down the swelling and preventing the formation of adhesions. Occasionally a patient does not need it; if the nose does not stop up, its use is unnecessary. In conjunction with the powder it is well to advise a spray containing half a grain of menthol, half a grain of carbolic acid, and three minims of the oil of cloves to the ounce of liquid albolene, for use two or three times a day. At the end of four or five days I give three parts of a similar powder, mixed with one of iodole, to be used twice a day if the nose stops up, once a day if it does not. This is the treatment also for hypertrophic rhinitis. In rhinitis intumescens, an example of which is now before us, a single cauterization on each side is sufficient in about one-fourth of the cases: not more than two will be needed in nine-tenths of the cases, and three or more in comparatively few. Be careful not to destroy any tissue unnecessarily. As soon as the nose is free the patient will be largely rid of that disagreeable sensation in the throat of falling mucus, which is so often the chief complaint.

INTUMESCENT RHINITIS.

CASE III.—This young man comes to us complaining of having been out of health for two or three years. His chief trouble is considerable stopping up of the nose, which for the past eight or ten months has been continuous. Before that time he had been subject to frequent colds in the head, and intermittent closure of the nares, particularly at night, with considerable discharge of mucus from the nostrils and dropping into the throat. The latter has been very annoying of late, and is accompanied by hawking and sometimes gagging and vomiting. He has also suffered from partial deafness, mostly of the right ear, which is worse at times and associated with much tinnitus aurium. A dull frontal headache has affected him almost continuously for the last six months, at times accompanied by a feeling of fulness at the root of the nose, and some weakness of the eyes, which "easily water." He says he sleeps with his mouth open, that his throat feels dry and irritable in the morning, and that he has frequent attacks of sore throat, hoarseness, and cough, especially in winter. At present he has no cough, but there is a good deal of pain in the chest, particularly on exertion. Examination of the thorax reveals nothing of a positive

nature to account for the pain. Upon inspection of the nose, I find the cavities are about four-fifths closed by enlargement of the inferior turbinated bodies; there is also an exostosis on the left side. The mucous membrane is abnormally red, and fine cobweb-like fibres of mucus stretch across the cavities from side to side, as if the two surfaces had been in contact and in separating had drawn out these films of viscid mucus. A view of the vault of the pharynx reveals abnormal redness of the mucous membrane except that covering the posterior ends of the turbinated bodies, which are so enlarged as to project far into the naso-pharynx. They are of a grayish hue, their surface somewhat nodular, and they almost completely occlude the posterior openings to the nasal cavities. There is also considerable viscid, muco-purulent secretion which extends down the posterior wall of the pharynx so as to be visible to direct inspection. The pharynx itself is dry and relaxed, and numerous prominent follicles and enlarged veins are apparent.

I have drawn out this man's history and symptoms somewhat at length because they are typical of this quite common affection, hypertrophic rhinitis, though all patients have not so large a congeries of symptoms. He complains of the pain at the lower portion of his chest on both sides, over the short ribs, hence along the attachment of the diaphragm. As I press upon the chest it does not aggravate the pain. The three tender points characteristic of intercostal neuralgia are absent. He has never had rheumatism, and has now no evidence of pleurodynia. If the pain were pleuritic, it would probably be confined to one side and be accompanied by peculiar physical signs, none of which are here present. Localized pain complained of as seeming to be in the lung itself is positively very rarely significant of pulmonary or pleural disease. My belief is that this pain is occasioned by the undue exertion thrown upon the diaphragm by the manner of breathing. The patient is obliged to make an extreme effort to draw in sufficient air to expand the lungs, owing to obstruction of the nares. The opening of these cavities would undoubtedly relieve the pain.

HYPERTROPHIC RHINITIS.

CASE IV.—The condition of this man's nose is chiefly distinguished from intumescent rhinitis, an example of which was just considered, in being continuously occluded. This patient has passed the stage of markedly intermittent swelling of the turbinated bodies. The soft parts have by repeated congestions become permanently thickened, and the bone itself is involved in hypertrophy. The bodies therefore no longer

contract to normal size under the influence of cocaine, nor yield easily to the pressure of the probe. The condition is not to be mistaken for a nasal polypus, which would be more elastic, and may be manipulated with the probe which can be passed between it and the outer wall of the nose, a thing not possible in the other affection. The posterior end of an inferior turbinated body might be mistaken for a polypus, but the latter is lighter in color and more translucent, and its surface is smooth, while that of the former is nodular and uneven. The treatment in this case is essentially the same as that recommended for intumescent rhinitis, except that redundant tissue must be removed. This may be accomplished by means of the galvano-cautery, by chemical caustics, or by scissors, burrs, trephines, or the *écraseur*. It is better to cauterize the soft tissues, as long as we can give the patient considerable relief by so doing, than to begin directly upon the bone itself.