

cases by incising the drumhead and remobilizing the stapes.

41 South 19th St.

DISCUSSION.

Dr. BURNETT—I have seen several cases of perfectly mobile stapes with total deafness, and total ankylosis of the stapes with very good hearing. I think that so far the operation can claim to relieve chiefly in cases of aural vertigo. These cases can often be treated successfully by intra-tympanic operation, either by Dr. Gleason's method or, as I prefer, by the removal of the incus alone.

Dr. RANDALL—We may properly hope for this operation a place equal in importance to that held by the operation for cataract in the surgery of the eye. There, in a large number of cases, lies the impediment to the betterment of the organ of hearing. More attention should be paid to the proper testing of hearing in these cases. Disappointments will greet us for a long time, as they have done in the past, as in the case of the operation for the removal of the drumhead, which a few years ago was exploited as the new treatment for all ear diseases. Even with great care and proper selection of cases, results will often be very disappointing.

Dr. TURNBULL—I feel as if I had been an advocate of the removal of the malleus. One of my cases was operated on seven years ago and her hearing is still good. She was very deaf indeed. The benefit may have come from the mobilization which attended this operation. In another case I operated on a lady who had suffered greatly with vertigo. The vertigo was entirely relieved and she has fairly good hearing.

Dr. BERNSTEIN—I have removed the incus in three cases, but I shall never do the operation again. In one case, for about three weeks after operation the patient's hearing was decidedly improved, but after that she had to use a trumpet. This has been my experience in the other cases also.

Dr. MYLES—I have rather opposed the removal of the ossicles. When cures from this operation are reported, it is not always stated how long the hearing remains improved. I know one man whom a distinguished aurist persuaded to have his ossicles removed, and for awhile his hearing was improved; but now he can hear nothing. Two young men came to me two years ago, whose hearing had been much impaired for about two months. I found large exostoses and complete nasal stenosis, and one of them had considerable adenoid tissue and subacute otitis media. I advised rest. One of the young men told me that he had come from the office of a distinguished aurist who had been almost violent in his efforts to induce him to have the ossicles removed. I advised them both to wait and try the rest treatment first, which they did. They both hear well today. If the ossicles had been removed, they would have heard better for a time, and would probably have been reported as remarkable cures.

Dr. GLEASON—Until a couple of weeks ago, I supposed the result I obtained in a case operated on two years ago was permanent, but the patient told me that all the improvement had disappeared. I would advocate this operation only after everything else has been tried.

OBSERVATIONS ON SOME PATHOLOGIC CONDITIONS OF THE NASO-PHARYNX.

Presented to the Section on Laryngology and Otology at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

BY EMMA E. MUSSON, M.D.

PHILADELPHIA, PA.

Believing that the presentation of cases having either special pathologic features or dependent on unusual causes, or amenable only to special lines of treatment, would be of interest. I have selected from my case book several groups of cases which have come under my observation during the past two years.

The first group comprises a number of cases of hypertrophied lymphoid tissue in the vault of the pharynx, all of which required for their relief operative interference. The points of interest in these cases, relate to the age and the character of the symptoms. Out of the last 230 patients in my case book, 34 had hypertrophy of the third or Luschka's tonsil.

Of this number eleven were from 15 to 20 years of age; eleven from 20 to 25; eleven from 25 to 35, and one 40 years of age. The age of the majority of these patients attracted my attention on account of the prevalent belief that these lymphoid vegetations are peculiar to children and disappear at the period of puberty.

Of these thirty-four cases, nine were complicated with profuse post-nasal discharges. In five instances the growth interfered with singing upper notes; in one, with elocutionary work and in one with ordinary school teaching.

Two cases were complicated with hay fever; two with mouth breathing; two were subjects to attacks of acute pharyngitis and tonsillitis, and two were subject to frequent colds.

Twelve cases were complicated with disturbance of the ear. Of these, three had marked deafness; three were moderately deaf; one had purulent otitis media; two acute Eustachian catarrh and three tinnitus and fulness.

The majority of these cases had post-nasal catarrh. The hypertrophied lymphoid tissue in at least 95 per cent. of the cases was entirely confined to the vault of the naso-pharynx. The growth varied in appearance and extent, from apparently smooth masses, one quarter of an inch in thickness to vegetations as large as those found in well marked cases in children. A number of these vegetations were connected with the Eustachian tube by synechiæ. Moreover in those cases complicated by diseases of the middle ear, the vegetations were fibrous in character while in those complicated by a profuse muco-purulent secretion, they were soft and friable.

Surgical procedures for complete removal of the growths, were followed by relief if not complete disappearance of all the symptoms except the deafness. There was a disappearance of the post-nasal discharges and of the seeming purulent rhinitis, and the patient was no longer subject to repeated colds and sore throat. The voice became more resonant in speaking and two or three notes were added to the upper register of the voice in singing.

Surgical interference which gives such brilliant results in early childhood, for the relief and cure of deafness, was in my cases followed only by slight if any benefit; not until after a long course of patient treatment of the middle ear disease was any improvement noticed. In those cases however in which the middle ear was but slightly involved and the symptoms present only at intervals a prompt cure was effected upon removal of the growths. Of the cases complicated with naso-pharyngeal secretions, four were of exceeding interest. In two of them the discharge from the nose and naso-pharynx was purulent, profuse and constant. In the two other cases the secretion was excessively profuse, but entirely mucoid in character. Three had a family history of gout and rheumatism, and had not yielded to prolonged treatment for nasal catarrh. In two the amount of lymphoid tissue was so small that I hesitated long before removing it; there was an entire absence of the gross appearance of adenoid growths, the vault of the pharynx showing only a thin sheet of lymphoid tissue. After the lapse of a year, during which there was no recurrence of the discharges, I felt that I had been justified in my operative procedures.

The methods resorted to for the removal of these growths were the forceps followed by curetting in the

larger number of the cases. In two only I employed the galvano-cautery.

In reviewing the literature on this subject I found an article by Dr. Farlow, in which attention is called to the mistake frequently made, that adenoid growths in the post-nasal space are peculiar to childhood and that they disappear at the time of puberty. He also emphasizes the fact that the deafness occurring in adults as a result of adenoid vegetations is but slightly benefited by their removal. Bryson Delavan is quoted in the *Annales des Maladies de l'Oreille* as saying that adenoid growths persist after puberty. Moure makes a similar statement. Chiari, in the *Annales* for 1894, states that out of 233 private cases and 152 clinical, 16 cases between ages of 20 and 30 had lymphoid hypertrophy of the third tonsil.

W. H. Bates of New York, published a history of five cases of deafness in adults due to adenoid vegetations of which the youngest was 24 and the eldest 55 years of age.

This group of cases suggests several queries, to which I have been unable to furnish any definite answers: 1, as to the causes of absorption or non-absorption of adenoid vegetations; 2, what factors determine a variable group of symptoms in cases apparently similar; e.g., why should the middle ear be involved in only a certain percentage of cases?

The second group comprises a number of cases of chronic naso-pharyngitis associated with, if not dependent on, the uric acid diathesis, employing this term in its broadest sense as a disturbance in the equilibrium which should exist between the production and elimination of uric acid.

The feature of this group, to which I ask attention, is a probability of the uric acid diathesis being the underlying and causative agent. It was pointed out by Beverly Robinson, in 1888, that there was apparently a correlation between post-nasal catarrh, gastro-intestinal disorders and lithemia and somewhat later Harrison Allen described the gouty sore throat. At the present time most authorities are united in the opinion that the majority of cases of chronic naso-pharyngitis are either due to some disturbance of the digestive tract or are local manifestations of some constitutional diathesis as lithemia, gout and so forth.

While the obverse of this was demonstrated by Turck of Chicago, who found in the stomach bacteria of the same variety as those in the mucus of the naso-pharynx, these bacteria can set up acid fermentation in the stomach. Believing that many cases of naso-pharyngitis are but local expressions of the uric acid dyscrasia, it has long been my practice, to look beyond the local nasal condition and so treat the patients constitutionally with anti-lithemic remedies. With a view of determining whether there was a defective elimination of uric acid, I had the urine of seventeen patients suffering from nasal and post-nasal disease carefully analyzed, using Haycraft's method for the uric acid test and the hypobromid process with Marshall's apparatus for that of the urea.

The majority showed a marked change in the normal ratio between the uric acid and urea excreted; the disproportion ranging from one of uric acid to seventy-four of urea, to one uric acid to eight of urea. Five cases had two or three analyses made, always showing a disproportion between the amount of uric acid the urea excreted; in Luff's table of fifty daily eliminations of uric acid and urea of a healthy adult man on a mixed diet, the highest percentage of elim-

nation of uric acid was one to twenty-eight, the lowest one to fifty-five.

It was only in exceptional cases that I found any marked gastric disturbances. These analyses seemed to establish the fact that the presence of uric acid salts was the exciting cause of the naso-pharyngeal symptoms.

Most authorities, however much they may differ as to the formation or elimination of uric acid or the proportion which it should bear to the urea, admit that under certain conditions an undue amount is found in the blood; according to Levison and Luff in the form of a quadriurate, and in consequence is apt to be deposited at the point of least resistance. Luff in his Gulstonian Lectures states that uric acid deposits have been found in the mucous follicles of the pharynx. In the words of W. F. Dudley, the uric acid dyscrasia, like other dyscrasias, has localized areas of special selection for its clinical manifestations.

One such area appears to be the vault of the naso-pharynx. This region is rich in lymphoid and glandular tissue and susceptible to uric acid deposition and consequent irritation, with a change in the character of the secretion. This latter change may be the possible cause of the subsequent congestion and hypertrophy of the mucous membrane which, at first, is attended with a profuse secretion of mucous, and later by a blocking up of the gland ducts and an atrophy of the glandular tissue, to be followed by a diminution of water in the secretion, the formation of clots of mucus and adherent crusts.

It is at this stage also that the marked symptoms in cases of chronic middle ear catarrh begin to appear; previous to this time there has been but slight buzzing in the ears with a sensation of fulness lasting a short period of time. These attacks, however, become more frequent until the patient is conscious that hearing is gradually being lost.

The line of treatment was toward the correction of gastro-intestinal irritation or constitutional diathesis, in connection with that of the local condition of the naso-pharynx. It was only in the milder cases or those in the earlier stage of the affection that relief followed non-surgical methods of treatment. In all other cases the hypertrophied and granular mucous membrane of the vault and post-pharyngeal walls was curetted, with excellent results. In those cases where the disease had localized areas, probably due to the blocking up of the gland ducts, the galvano-cautery was used, followed by improvement only. Stazza argues that surgical measures only are applicable.

The third group comprises a number of cases in which acute follicular naso-pharyngitis was a concomitant of acute lacunar tonsillitis. The association of these two states attracted my attention several years ago. Since then it has been my rule to examine the naso-pharynx in all cases of acute tonsillitis, to determine the frequency and extent of the follicular inflammation.

In 50 per cent. there was a congestion and swelling of Luschka's tonsil with distinct points of follicular exudate. In about 40 per cent. of the remaining cases there was a congestion but no exudate.

Bosworth, in his book, refers to this possibility of an acute follicular inflammation of the third tonsil. This involvement of the naso-pharynx in acute follicular tonsillitis affords a ready explanation for the number of cases of acute inflammation of the middle ear which complicate these attacks.

The general practitioner would seldom err if he included the treatment of the naso-pharynx in all cases of acute infectious diseases of the pharynx and tonsils. A further argument in favor of the theory of the participation of the naso-pharynx in acute pharyngeal infections is that frequent cases of chronic post-nasal catarrh follow in the track of these attacks.

Moure, in the *Twentieth Century*, gives a detailed description of acute inflammation of Luschka's tonsil under the name of acute adenoiditis and, judging from the symptoms detailed, probably many so-called "colds in the head" would prove, on post-rhinoscopic examination, to be attacks of acute naso-pharyngitis or adenoiditis. And here I digress for a moment to call attention to two different phases a so-called cold in the head may assume, as the result of a constitutional dyscrasia; in one we have the preliminary stage of dryness and irritation followed by a profuse watery secretion, later becoming muco-purulent; but if the patient be a lithemic subject the stage of serous effusion is followed by a profuse mucoid secretion, tenacious in character, blocking up nose and naso-pharynx but never becoming purulent; resolution is prolonged beyond that of the ordinary cold.

Two cases of this description occurred in children of 14 and 16 years of age; one with marked family history of uric acid on both sides, on whom ordinary treatment for "cold in the head" had no effect, was put on a strict dietary and given potassium bicarbonate; speedy relief followed this treatment, along with marked improvement in the general health and freedom from colds.

I will close this paper with a description of three cases of direct infection of the naso-pharynx. The first, a student in the bacteriologic laboratory, accidentally broke a test tube containing a culture of streptococci, and although strict antiseptic precautions were immediately taken, within twenty-four hours there was an active purulent inflammation of the tissues of the naso-pharynx, and in forty-eight hours, when I first saw her, the mucous membrane of the naso-pharynx was so swollen as to almost entirely cut off the view of that region. The discharge into the pharynx was profuse, purulent and foul, the temperature 102 F., though probably higher during the first twenty-four hours. Culture tube tests of the discharge showed a colony of diffused streptococci. A long time elapsed after the disappearance of the purulent secretion and high temperature before reduction of the swollen mucous membrane took place.

The second case was a patient who, just recovering from an attack of acute rhinitis, superintended the opening of numerous cases of ostrich feathers in the raw state, packed in camphor; she was suddenly seized with a sense of suffocation and fainted. Two hours afterward I found the throat intensely congested; in twelve hours an acute naso-pharyngitis developed, with profuse purulent discharge and a temperature of 100 degrees F.; two days later the temperature was normal and the throat almost well. The patient was sent to Atlantic City; twenty-four hours thereafter there was a sudden rise of temperature and involvement of both frontal sinuses and the left antrum in an acute purulent inflammation. No cultures were taken. Is it possible that these two cases were like Stazza's, that of acute inflammation of Luschka's tonsil during an epidemic of influenza, or were they due to bacterial infection?

The last case is that of a physician who has been

treated several times this winter for attacks of acute adenoiditis (Moure) which came on after exposure to cases of diphtheria or acute sore throat; the lymphoid tissue, between the attacks, now remains chronically hypertrophied. The patient is about 30 years of age and still retains in the vault of the naso-pharynx a small amount of hypertrophied lymphoid tissue that was not thoroughly removed in an operation performed six years ago.

258 South 16th Street.

DISCUSSION.

Dr. RICHARDSON—Acute inflammation of the naso-pharynx antedating and occurring with acute inflammation of the tonsils is, I think, a much more common occurrence than we are apt to believe. I have seen a number of such instances and a number of cases in which the inflammatory changes have been limited to the naso-pharynx and the acute inflammation of the tonsil has not appeared at all. I saw one case where the whole vault of the pharynx had almost the appearance of an acute diphtheritic change, and there was no inflammation of the tonsil. I think it would be wise in all cases to examine the naso-pharynx carefully. I have for a long time observed that the uric acid diathesis has much more influence on naso-pharyngitis.

Dr. D. BRADEN KYLE—Luschka's tonsil is really a normal physiologic condition. In many cases inflammation is secondary and not the cause of the enlarged gland structure.

Dr. G. V. WOOLEN—I am not a bacteriologist, but I know that bacteria must be a cause of many of the troubles that we see. A chief function of the nose is to purify the air, and the impurities of the air which are largely bacterial in origin must influence the nasal conditions. Most people escape these troubles, and why? The conditions must be favorable for their development. When these are present the fact is expressed in acute attacks. Such conditions may be brought about by indiscretions of diet, or by the thousand other things that interfere with health. The pendulum has swung to the operative extreme. We must go back to the cleansing processes. Patients, themselves, can do much in this way, by thorough cleansing before meals, especially where there is uric acid trouble. We can not give too much attention to cleanliness, which is very closely akin to antiseptics. With a simple alkaline wash I have done much to prevent trouble.

Dr. CURTIS—In my opinion the uric acid diathesis is far from being a complication of the disease. We should consider that it is due to the waste product of an overworked brain, very possibly due to an enfeebled condition of the body.

Dr. WILSON—Did I understand the last speaker to say that he considered these conditions due to an overworked brain?

Dr. CURTIS—I meant the uric acid diathesis—not the adenoid growths.

Dr. WILSON—We see uric acid conditions in patients in whom the brain does very little work. I think it is reasonable to believe that there is something in the system which manifests itself in many ways, and which admits of bacteria taking effect on the membranes.

Dr. JACQUES—Physical resistance is the important point to be remembered in treating these cases. The uric acid diathesis may be the means of bringing down the general resistance. If so, it is one of the exciting causes. It takes a number of factors to produce these conditions. The mouth is a perfect breeding place for germs all the time, but only when the physical resistance is reduced do we have the proper conditions for disease. Bring up the vital resistance of your patients to the highest point, then treat the pathologic conditions.

The CHAIRMAN—A constitutional condition which disposes certain individuals to lymphoid enlargements, especially hypertrophy of the faucial and post nasal tonsils, has long been recognized. We are accustomed to call it lymphatism for want of a better term. That this is or may be synonymous with uric acid diathesis seems to me a new idea. I would ask whether the author found uric acid present in cases of chronic enlargement of the lymphoid tissues, or whether it was only in acute inflammation of those already hypertrophied. There is a constitutional tendency to recurrence of these growths after removal. Operators have endeavored to do thorough work; but even then several years after, in certain cases, there has been a recurrence of the hypertrophy. This is especially apt to take place, however, if a thorough operation is not done. Concerning the effect on the hearing, I have had cases of practical recovery from long continued deafness after operating for adenoids, but there are other instances in which but little improvement takes place. We are apt to look for improvement

too early. Cases which have disappointed me at the end of a week or a month, perhaps, show marked improvement at the end of three months.

Dr. Musson—I did not intend to convey the idea that in my first group of cases the trouble was due to uric acid. In the second group I spoke of the uric acid diathesis, sometimes with a certain amount of lymphoid tissue. Where uric acid was present I did not commence curetting at once but tried constitutional treatment first. I feel sure that some of my patients who had uric acid trouble did not overwork their brains. All antiseptic precautions were taken in these cases. In adults I believe that curettement could be carried out without injury to the Eustachian tube or the surrounding tissues.

QUESTIONS REGARDING THE ETIOLOGY OF ADENOID VEGETATIONS AS FOUND IN THE NASO-PHARYNGEAL CAVITIES.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY M. C. O'TOOLE, M.D.

SAN FRANCISCO, CAL.

That we possess no positive knowledge regarding the etiology of adenoid vegetations, as found in the naso-pharynx, can be ascertained by a brief study of the opinions expressed by writers on this subject. Scrofula, heredity, the acute exanthems, cold and dampness of climate and whooping cough, have all been mentioned as etiologic factors, while Gruber asserts that neither climate nor occupation appear to influence their development.

In a paper, "Suggestions Regarding Treatment of Diseases of the Ears and Throat in Children," read before the Medical Society of the State of California, April 1894, the following statements appear: "For the past three years, I have lost no opportunity of investigating the etiology of adenoid vegetations, and the results have been in every way confirmatory of former experiences. Five years ago, I removed adenoid vegetations from the pharyngeal vaults of three children, all of the same family; two girls and a boy, aged at the time of operation 3, 5 and 6½ years respectively. The mother incidentally mentioned to me, when speaking of her trouble, that she had suffered considerably with leucorrhœal discharges at the time of their birth. She was then six months pregnant. A confrère remedied the abnormal uterine and vaginal secretions. The infant was borne in due time. It is now 3 years old, but has no abnormalities in the pharyngeal vault.

Since this experience, I have invariably questioned mothers, having children with these growths, and have in every instance found that they had been effected with abnormal uterine or vaginal secretions at the time of the birth of the child so affected. From these observations I have formed the opinion that acute suppurative inflammation of the middle ear in infants is, in most cases, the result of contact with gonococci bearing, maternal vaginal secretions during parturition and that catarrhal secretions under like conditions, are responsible for the existence of abnormal lymphatic follicles and adenoid vegetations as found in the pharyngeal vaults of older children.

The writer, being aware that his experience on this subject is as yet too limited to admit of positive conclusions, would nevertheless venture the opinion that obstruction of the nasal passages during infancy and early childhood by the causes and in the manner indicated is the chief etiologic factor in the development

of post-nasal growths whether as adenoid vegetations or hypertrophied lymphoid follicles, also that subsequent asymmetrical development of the nasal structures and of the nasal cavities are frequently traceable to the same cause.

6 Eddy Street.

A CASE OF MYXEDEMA WITH PROMINENT NASAL SYMPTOMS.

Presented in the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, June 1-4, 1897.

BY A. H. CLEVELAND, M.D.

CLINICAL PROFESSOR OF LARYNGOLOGY MEDICO-CHIRURGICAL COLLEGE; SURGEON TO EAR, NOSE AND THROAT DISPENSARY, PRESBYTERIAN HOSPITAL.

PHILADELPHIA, PA.

The fact that the nasal condition was the only reason why this patient sought relief and that this seems to be so entirely dependent upon the general disorder leads me to report the history, which is as follows:

Mrs. I., age 38, was first seen Sept. 9, 1896. She complained of nasal stoppage with attacks of sneezing and watery discharge following an attack of grippe in May and persisting since then. For the past three weeks it had been worse. Examination of the nostrils at this time showed large boggy turbinates on both sides, rather worse on right, with a waxy paleness of the entire mucous membrane of the nostrils. Several constitutional remedies, as well as local applications, were tried in succession without the slightest effect on the condition. Oct. 26, 1896, frost having eliminated a possible hay fever and the hoped-for improvement not having occurred, I examined the nostrils again very carefully and was impressed by the waxiness of the membranes as contrasted with the condition found in ordinary rhinorrhea. It suggested to my mind a general rather than a purely local disease, and close questioning elicited the following more or less confirmatory history.

Family history: On the mother's side two aunts had attacks of asthma. A cousin of the father also had such attacks. No history of tuberculosis or of nervous disease, except rather far back on the father's side there was some consumption. The patient has always enjoyed moderately good health. She is married, the mother of four girls and one boy all living. The oldest is 13 and the youngest 5; all the girls have been more or less troubled with eczema. Since the birth of the last child the patient has had "abdominal trouble," but of what nature I did not learn. She has always had a nervous temperament; quick in action and thought. The bodily functions have always been regular with the exception of occasional bilious attacks and constipation. Menstruation has been and is still entirely normal.

While the nasal stoppage and sneezing were the symptoms which first compelled her to seek relief, she recalls that two years ago her hair, which before had been black and glossy, began rather suddenly to turn gray and become brittle. It did not come out to any great extent however. It is at present iron-gray in shade, and dry, but not coarse. The nails are dry and brittle, the teeth in fair condition owing to close attention. Her dentist has told her however, that the teeth were soft and easily broken. There are no fatty tumors, no moles or warts, no swellings in the supra-clavicular region. She has noticed no patches on the skin other than a scaly eczema behind the ear on either side.