

at times did not feel able to go out-of-doors. Arsenic had been administered for about a month, with no improvement in mental symptoms or in the number of corpuscles and quantity of hæmoglobin. Iron, quinine and strychnine were then given. In about eight weeks he was discharged much improved. The amount of hæmoglobin had not increased from 76 per cent.; but the number of corpuscles had increased from 4,045,000 to 4,923,000, and he had gained in weight five pounds.

CASE XXVI. Acute mania in a girl fifteen years old. She was much excited and very irrational. The first count, taken during her excitement, showed the number of corpuscles to be 4,820,000 and the percentage of hæmoglobin to be 68. Her weight was 78 pounds. In six weeks from the time of the first count she had become quiet and rational. The second count then showed a loss of corpuscles to 4,360,000, but her weight had increased. Enumeration of corpuscles just prior to her discharge (recovered) showed an increase to the number of 4,775,000. The hæmoglobin had increased (seven per cent.) to 75 per cent. and her weight (20 pounds) to 98 pounds. For a tonic she had taken iron, quinine and strychnine.

CASE XXVII. Female, eighteen years old. Acute mania, with remissions. The first count was taken after she had passed through a period of great excitement lasting about six weeks. She was then quiet and rational, but a little above par mentally. The number of corpuscles was 4,300,000 per cubic millimetre; the hæmoglobin showed a percentage of 50; and her weight was 123 pounds. The second count, taken ten weeks later while she was again excited, showed a loss in number of corpuscles to 4,050,000. The corpuscles were at this time very irregular—in the condition called poikilocytosis. Five weeks later she had become quiet and rational again, when it was found that the number of corpuscles was about the same as at the second count (4,078,000) but the amount of hæmoglobin had increased (17 per cent.) to 67 per cent., and the body weight had increased by four pounds.

CASE XL. Has for a number of years been subject to periods of melancholia attended by delusions and by hallucinations of sight and hearing. Several of these periods have been concurrent with attacks of pelvic peritonitis. In March she was cheerful and as well as she had been for years, weighing about 120 pounds. In April and May she suffered from dysmenorrhœa, followed by peritonitis. She became very melancholy and delusional. In July she was convalescing both mentally and physically. On the first of August she weighed 84 pounds. Examination of blood showed 50 per cent. of hæmoglobin and 4,000,000 corpuscles. The first week in September she was cheerful and rational; her weight had increased 14 pounds; the hæmoglobin had risen (10 per cent.) to 60 per cent., and the number of corpuscles to 4,500,000. The tonic was saccharated oxide of iron.

CASE XXXIII. Female. Acute melancholia, coming on during lactation. At the time of first blood count, July 8th, she was much depressed and very irrational, with some delusions of persecution. Her weight was 130 pounds; percentage of hæmoglobin 74, and number of corpuscles 3,975,000. September 4th, the weight had increased by seven pounds; the hæmoglobin remained at 74 per cent.; but the number of corpuscles had increased to nearly 5,000,000. She is cheerful at present, but mentally rather above par.

Of the cases thus far examined to learn the results

of treatment about 33 per cent. show no mental or physical improvement, and the condition of the blood remains practically unchanged; but these examinations have not extended over a long period, and their number is not large. Macphail says: "The result of investigation, comprising over two hundred observations, would seem to indicate that the four tonics which alone or in combination were most efficacious in improving the quality of the blood may be classed in order thus: (a) iron, quinine and strychnine; (b) iron and quinine; (c) iron alone; (d) malt extract." With him the blood of epileptics was found to improve with use of bromides, prolonged use having no deteriorating effect.

One of my cases of paresis improved much under a course of iodide of potassium, whether from effects of the remedy or not I am not prepared to say. On admission he was so feeble as to require being kept in bed; and he soon had a syphilitic ulcer appear on his leg. It was thought he would not live long, but he gradually improved. He has gained in weight over twenty pounds; the number of corpuscles has increased by about 400,000, and the hæmoglobin by 10 per cent.; and he is less boisterous and somewhat more rational.

It would be of interest to compare a series of consecutive admissions to a hospital with a similar series of those discharged recovered. Macphail thinks there is impoverishment of blood in more than 50 per cent. of cases admitted; and he says of patients who recover, that the quality of blood improves, and is not much below the normal standard on discharge.

While I am not prepared to endorse the opinion of one enthusiastic observer, that the time is coming when we shall examine the blood of our patients as regularly as we count the pulse and take the temperature, my experience convinces me that such examination will show with approximate accuracy any deterioration of blood in our patients, thus indicating need of, and perhaps line of, treatment, and that it will also aid us greatly in observing the progress of our cases and in studying the effects of remedies administered.

## HYPERTROPHY IN THE POST-NASAL SPACE, ESPECIALLY AFTER CHILDHOOD.<sup>1</sup>

BY JOHN W. FARLOW, M.D., BOSTON.

THE importance of nasal respiration has been so frequently insisted on in the last few years that there is no need for me to call your attention to it this evening. The post-nasal space, where the horizontal passage through the nose turns to become the vertical passage to the larynx and trachea, should be free from obstructions and encroachments, just as the bent heating and ventilating pipes of our houses should not be choked up or narrowed at the elbows and bends. The fact that air goes through the nose, and the mouth is not habitually open does not, by any means, prove that there is no nasal obstruction. The body can adapt itself to various abnormal conditions and overcome them after a fashion, but the work performed is almost certain to be imperfect in certain particulars. It has seemed to me that a very erroneous idea of the nature of free nasal respiration was prevalent. The post-nasal space may contain a large amount of hypertrophied tissue; the patient may claim that he can

<sup>1</sup> Read before the Boston Society for Medical Observation, November 6, 1893.

breathe well through the nose; he may not be a mouth-breather; he resents the idea that there can be any obstruction to his breathing; he has never had any other nose, and has never breathed better than he does now. But after the removal of the hypertrophy he will confess that he never really breathed well before.

I have seen so many instances of this, and have been told so many times by physicians that such and such a case had no post-nasal hypertrophy because there was no mouth-breathing, cases where I have later removed large, obstructing masses, that I feel the importance of insisting that mouth-breathing is only one of the symptoms of nasal obstruction, and that considerable obstruction can exist without mouth-breathing, especially in adults.

The same holds true of snoring. If the soft palate is pushed forward and kept from applying itself against the posterior pharyngeal wall by large growths behind, it becomes parietic, and easily flaps backward and forward in sleep, giving rise to marked snoring. But the palate may be strong, the obstruction high upon the posterior wall, and snoring entirely absent.

If, then, two of the great cardinal features of post-nasal hypertrophy may be wanting, we should naturally expect that many cases would be overlooked, and such I believe to be the case. The degree of obstruction depends upon the relation of the size of the obstructing mass to the space in which it is contained. In young children the post-nasal space is very small, and a small amount of growth would naturally cause very different symptoms from the same amount in a larger child. If the tonsils are very large, narrowing the throat from side to side and preventing the free play of the palate, a smaller amount of growth behind the palate would suffice to cause more marked symptoms than where the tonsils are small.

If the growth is spread out uniformly on the upper part of the posterior pharyngeal wall, the symptoms will differ from the cases where the growth is massed together near the posterior openings of the nose.

With regard to the frequency of post-nasal hypertrophy after childhood, I should say that such cases are very common. The idea that adenoid disease nearly always atrophies after puberty, leaving no enlarged or diseased structures behind, is entirely erroneous. That many such cases are called nasal or post-nasal catarrh, or are attributed to slight deviations and ridges of the septum, or to large tonsils, prevents them from being properly recognized and placed in the category where they belong. But whoever makes frequent and thorough examinations of the post-nasal space with the rhinoscopic mirror must soon be convinced that a pathological amount of adenoid disease is very common after puberty, even up to thirty-five years of age. At puberty the whole region of the throat enlarges, and more open space for respiration exists in the back of the nose; but the diseased glandular tissue is not so prone to disappear, and continues to secrete, inflame and cause trouble by its presence in a different way, ordinarily, from what it did before.

Let us consider what symptoms we may look for where there is no respiratory obstruction. The post-nasal space is a great centre for reflex action, and naturally resents the presence in it of any growth, just as it would a foreign body. A very common symptom in such cases is, a dry, hacking cough, often very per-

sistent and more or less paroxysmal. This is quite apart from the cough due to secretion dropping down into the pharynx. Scraping of the throat and sniffing are also endeavors to get rid of an irritant. I have occasionally seen picking of the nose, and more often an outward forcible expulsion through the nose, an evident desire to get rid of an irritant behind the nose. Particularly in young persons is it important to examine the post-nasal space in cases of obstinate cough. I have seen one case of torticollis apparently caused by the presence of a small, firm adenoid. I have also seen several instances of chorea where the post-nasal congestion and irritation seemed to be a factor in the disease.

The glandular nature of the growth shows itself by profuse secretion, tendency to engorgement and proneness to inflammation. Repeated colds are common, and constant sniffing and a loose cough become a part of the daily life. The secretion dropping in the throat keeps the tonsils and pharynx in a state of congestion and hypertrophy. A gland does not need to be large to secrete a surprising quantity and hence the importance of not overlooking the post-nasal space even when there is good nasal respiration. In acute follicular disease of the tonsils, we should also bear in mind that the follicular tissue of the vault is probably also involved and merits attention. I have seen a number of cases where the faucial tonsils were hardly affected at all, while the pharyngeal tonsil was swollen and covered with a whitish exudation and the constitutional symptoms were very marked. In adults, it is not uncommon to find considerable secretion at the vault, apparently having its origin in old diseased glandular remains. I have seen the same after operation where the follicular tissue had been only partially removed, leaving a certain amount of diseased and secreting gland behind, an argument in favor of thorough removal. I have sometimes thought that the amount of secretion had been increased by the incomplete removal.

I shall say nothing of the bearing that large adenoid masses have on the hearing. Such cases usually have other marked symptoms which attract attention, and hence are not likely to be overlooked. But the smaller growths, less easily recognized, and occurring in adults, have a very great significance as they are apt to be overlooked until the hearing has become quite impaired in one ear, or tinnitus aurium has demanded attention. They act more slowly and accompany or cause the more chronic disease of the hearing. It is the situation and nature of these growths which makes them of such importance to the aurist. Small growths in the fossa of Rosenmüller, which keep the Eustachian tubes closed, swollen and bathed in secretion, require careful removal. I have seen a number of instances where bands, the remains of old adenoid tissue, stretched across from the Eustachian eminence to the vault, interfering with the function of the tube.

While the post-nasal space remains in a state of congestion and hypertrophy, the ear must suffer. I am sorry to say that many of the cases of chronic disease of the middle ear, probably caused by a moderate amount of adenoid disease existing undiscovered for many years, are often not much relieved by the removal of the adenoid growth. I think the attempt should certainly be made to free the tubes and the post-nasal space with the hope of relieving the ears, but the benefit is much less certain to follow than in

the early, acute cases of childhood. This is all the more reason for systematic examination of the post-nasal space at as early an age as possible, even when there are no special symptoms.

The deformed mouth, the high arch and projecting upper teeth, are well recognized results of nasal obstruction. The alienist lays great stress on the high palate as a mark of mental deficiency, but the dentist and the physician who sees much of nasal disease are certainly aware that a high palate often has no connection with mental inferiority. In an article on deformed vaults in the *Dental Cosmos*, for November, 1893, Dr. E. S. Talbot says: "In cases of arrest of development of the bones of the nose, and adenoid growths, when it is impossible for the child to breathe through the nose, and mouth-breathing is a necessity, the jaws are separated, and the teeth not having a resting-place, the alveolar process elongates, and a high vault is almost always noticed; hence the reason why imbeciles, and all degenerates who keep the mouth open, as a rule, have high vaults." There remains much to be learned on this subject. I have seen a number of cases of high palate in children where there had never been nasal obstruction and where the mental faculties were very bright, and also a smaller number of instances of marked adenoid obstructive disease where the palate was not high. Where the palate is very high arched, the post-nasal space is sometimes narrow and very high. In operating in such cases, I have been surprised on removing a large amount of growth to find that I needed to go still higher to a second or even third story of growth before reaching the high vault. Such cases are sometimes deceptive in the rhinoscopic mirror. The post-nasal space being narrow, the growth may look small, and one is surprised on learning the vertical diameter of the growth. When dentists attempt to spread the upper jaw in young persons where the post-nasal space contains a considerable amount of obstructive hypertrophy there is sometimes a degree of nervous irritation caused which renders it impossible for the patient to submit to the spreading-plate. I have seen several such cases with dentists, and not until after the removal of the adenoid growth could the dental work be continued with satisfaction.

The importance of a free post-nasal space can hardly be exaggerated. There may be plenty of room for nasal respiration, there may be little or no secretion, but if the posterior wall and vault are covered to a greater or less extent with a thickened tissue, the voice loses just so much resonance, carrying power, and part of its upper register. Our New England climate is held responsible for many thick, catarrhal voices, but this can be overcome in many cases by attention to the post-nasal space and removal therefrom of secreting and hypertrophic structures. I have seen a gain of several notes in the upper register after the removal of a small, soft mass at the vault. The voice does not tire so soon, and can be used much longer at a time in speaking or singing.

The diagnosis is most surely and accurately made with the mirror. I am not speaking of cases of great mouth-breathing, etc., where the symptoms are very marked, and where the finger readily determines that the post-nasal space is filled, I refer rather to cases where the symptoms have to do with the other functions of the post-nasal space than the respiratory. The upper jaw may be very long, and it may be diffi-

cult to reach the vault with the finger. The patient can tolerate the finger for a short time only, and accuracy in diagnosis is impossible. I once operated, under ether, on a case where I had not made a positive diagnosis. The space between the uvula and the posterior pharyngeal wall was so small, owing to projection of the spine at this spot, that I was unable to see anything with my smallest mirror, and the upper jaw was so long that I was unable to reach the vault, even during anæsthesia.

There is sometimes more hypertrophy at the vault than appears in the mirror, as the growth may be of a fairly uniform thickness, or the vault may be very high and able to contain a great deal more tissue than usual. The probe is an aid in such cases. We often see irregular masses with clefts between, and are surprised to find how far the probe will enter into these clefts, from which there may exude a copious secretion. Such are remains of Luschka's tonsil, which has taken on a diseased action.

The regions near the Eustachian tubes should be carefully examined for bands, or small projections, which interfere with the function of the tubes.

The size of the cavity should be carefully noted, as the smaller the space, the greater the discomfort from a given amount of hypertrophy. I should say that in young persons great enlargement of the tonsils was almost invariably accompanied by a considerable degree of hypertrophy at the vault, especially if there is any mouth-breathing.

Treatment in the mild, soft, secreting cases consists in the use of cleansing sprays and various astringents, such as iodine and glycerine. But most cases will require removal by surgical means. Cocaine serves to diminish the pain, and with the co-operation of the patient, the desired pieces can be removed with great accuracy. If anæsthesia is necessary it should be light, as it is much safer than deeper anæsthesia where considerable quantities of blood may enter the air-passages.

Sometimes caustics or the galvano cautery are of use, especially where the diseased and secreting clefts and sinuses are present. My own preference is for forceps, while others favor curettes and various snares. The important point is to remove all the diseased hypertrophied tissue. The lower pharynx should also be treated whenever there are any large follicles present.

#### THE EFFECT OF CLIMATE AND ENVIRONMENT ON THE NEW ENGLAND GIRL.

BY J. WARREN ACHORN, M.D., BROOKLINE, MASS.

MAN and the forest, man and the mountains, man and nature grow together. Wherever you find the highest mountains, the mightiest forest, (the forest that knows no ancestry,) the deepest ocean, the most graceful lakes (like those one sees in Switzerland), and hear the roar of the cataract that tells of a mighty river, there the most rugged and characteristic in nature abounds (the climatic conditions being also favorable), there you find the noblest type of man—the finest physically, and if civilization has reached him, and educated minds have helped his own to think, the physically and mentally proportionate man. There you find the most potent man and the most thoughtful; not necessarily the tallest, though the race grows tallest in the tallest country; not necessarily the shortest,