NASAL OBSTRUCTION AND ITS CONSEQUENCES IN SCHOOL CHILDREN.

BY

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In the course of routine inspection of school children there are few conditions met with that are of greater importance to diagnose, that present such frequent difficulty in diagnosis, under the circumstances, or tax one's judgement with regard to advising operation, as do the varying degrees of nasal obstruction that daily come under notice. The conditions causing obstruction may be classed as follows in order of frequency:

1. Adenoids (with or without enlarged tonsils).
2. Enlarged turbinate bones.
3. Thickened and deviated septum and spurs.
4. Nasal polypi.

All these conditions are very frequent except polypi, which appear to be by no means uncommon, and almost invariably unsuspected by the parents. With regard to adenoids, and in cases of great doubt, where the parents specially inquire if an operation is necessary or not, it is obviously best to palpate the posterior nares. I always explain to the parents beforehand how painful this is, and obtain their consent. It is obviously a method to be avoided as far as possible in the schools. Posterior rhinoscopy is also out of the question.

When the child has enlarged tonsils there is no need to make an exact diagnosis of adenoids, since an operation is necessary in any case.

In every suspected case it is important to ask if an operation for adenoids has been recently performed, since a mouth breather will not become a nose breather without training or practice. Otherwise, if a child who has not been under operation is an obvious mouth breather, the school doctor may, I think, safely advise operation, without risk of the child being returned to school labelled, "No treatment necessary," even in the absence of other clear physical signs.

Deformities of the chest of the "pigeon breast," "Harrison's sulcus," "keeled sternum," "excavated ensiform," and allied types, are extraordinarily frequent; speaking offhand, I should put them at about 20 per cent. of all children examined, and I believe them all to be accounted for by obstruction to respiration, past or present—usually present. A few cases only have other signs of rickets.

A degree of obstruction sufficient to deform the chest ever so little is important. Many such cases have, or develop, chronic bronchitis. Likewise, all children who are said to snore, either in bed or at school, or to be deaf, must be carefully investigated. I think that a habit should be formed of looking into the anterior nares as well as examining the throat with a spatula in every case. Gentle pressure on the tip of the nose expands the nostril sufficiently to give a good view of the inferior turbinates and of any polypi that may be present as well as the septum, without using any sort of speculum. Of the tests other than palpation to be applied to the posterior nares the first is obviously to close each nostril separately, by pressing a finger on the ala nasi, and make the child inspire and expire through each nostril, with the mouth tightly closed. It is difficult to gauge the freedom of entry of air, but it is easy to feel the blast of air on the back of one's hand during expiration and to gauge its volume and force. It is important to observe the effort required during inspiration, but care must be taken to prevent the outer wall of the nostril being sucked in, and so acting as a valve, by again keeping gentle pressure on the tip of the nose with one finger. In many cases the effort of drawing in air through an obstructed nostril quite puts the child out of breath, so that he involuntarily opens the mouth, when the observer says to him, "Now blow out through your nose."

In applying this test it is necessary to remember that the child is taught in school to expire through the mouth, so that it must be made clear to him that on this occasion he is required to breathe in and out through the nose.

The effect of the special training, which he endeavours to act up to when under observation, is also apt to deceive in that class of case in which a child with well-formed face and firmly-set mouth appears to be breathing quite properly through the nose for the benefit of the doctor examining his chest. In such cases attention is first called to the nasal obstruction by the almost complete absence of breath sounds, even over the right bronchus. One is apt at first to suspect early phthisis, which, amongst the small percentage of cases in school children, frequently commences at the hilus of the lung, until the child is told to breathe quietly through the mouth, when the breath sounds become as puerile as usual. In many cases in which my suspicions have been aroused by the above observation in normal-looking children I have explored the naso-pharynx and found abundant adenoids.

I have found wide, roomy nostrils with chronic rhinitis and discharge to be a not infrequent concomitant of adenoids, especially in children not obviously mouth breathers. In these cases the expansion of the nostrils appears to be due to an effort to increase the breathing space and allow air to creep in around the obstruction, and ozaena eventually supervenes. Enlarged turbinates are also common in these cases, but whether they are the cause or the effect of the expanded nostril and unventilated space I am not prepared to say.

I have seen cases of badly deformed chest associated with enlarged tonsils in which there were no adenoids or other form of nasal obstruction present at the time of observation; but enlarged tonsils have a much more common and more serious effect upon the child's future than this. By far the larger number of valvular lesions of the heart that have come under my notice during the past three years have been associated with enlarged tonsils. Some of these tonsils have openly declared themselves as the harbingers of rheumatism, scarlet fever, diphtheria, etc., but very many have simply remained the cause of periodical sore throats, and have admitted a most insidious attack upon their owner's hearts by being a nidus for various forms of cocci. This point should be impressed upon parents. I have urged a parent one year to have her child's tonsils removed, and on revisiting the school the following year found that nothing had been done, but that the child had meantime developed very serious valvular lesions, although it was asserted that the child had suffered no illness "to speak of."

I have dwelt on the subject of adenoids because I think it is necessary to point out to those who may be commencing the work of school inspection that:

1. Every deformed chest must be accounted for.
2. Because a child breathes apparently normally through his nose when standing up during the day, it does not follow that he will breathe equally well lying down, when the mucous membrane swells and the muscles relax.
3. Nocturnal mouth breathing may give rise to serious dyspeptic trouble, owing to the growth upon the tongue of colonies of sugar-fermenting organisms which are subsequently swallowed at a time when the stomach is least able to resist them, namely, in the early morning before breakfast, as I have previously pointed out.

As a matter of general interest, I may mention four points of comparison between the London and the Berkshire school child:

1. London teeth are incomparably better.
2. London nutrition is much inferior.
3. Enlarged tonsils are less frequent.
4. Phthisis is more common.

But I must add that my experience of the London school child is almost restricted to Bermondsey, Rotherhithe, and Camberwell.

The following general instructions to all parents I have found useful:

1. Keep the bedroom window open, but allow enough bedclothes.
2. Let the child wear a woollen vest if possible.
3. Bathe the chest and throat with cold water every morning.
4. Make the child use a toothbrush and shaving soap all round the teeth every night at least.

THE King has given directions for the appointment of Mr. Joseph P. Fagan (Deputy Principal Medical Officer) to be Principal Medical Officer of Northern Nigeria.