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REMARKS ON THE ETIOLOGY OF HYPERTROPHIC RHINITIS.*

BY E. L. SHURLY, M.D., DETROIT, MICH.

In discussing the subject of hypertrophic rhinitis, it would seem impossible, as you know, to avoid all speculative philosophy, for notwithstanding the great practical progress in rhinology which has been made during the last 25 years, many of the out-cropping problems are still sub-judici. This condition probably arises from the fact that we have no natural anatomic or physiologic standard applicable to civilized man—because he is, so to speak, an artificial animal.

The commonly found abnormal hyperplasia of the turbinate tissues, regarded from a critical standpoint, seems to be one of the most senseless irregularities of nature. Rarely in any other place in the body is nature's conservatism so conspicuously absent. Reflecting upon general lines, it appears really absurd that passages like the nasal—so important for the maintenance of health and good respiration—should be so often, and I might say, so unnecessarily deformed in so many human beings of all ages. Therefore, in approaching the topic of its etiology, many factors must necessarily attract our attention.

In the first place we may fairly assume that one of the basic predisposing causes, at least of nasal turbinate hypertrophy or deformity in civilized man, may be attributed to the evolutionary or

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devolutionary processes which the structures have been undergoing through many generations, perhaps, in reaching the present condition (size and quality) of the cerebrum and face. This assumption, no doubt, might be seriously questioned if there were an absence of any positive demonstration to show that the head and face of the Caucasian at birth varies at the present time very much from that of centuries before. So far, however, as we can rely upon archeological data, it would seem that the relative proportion (small face and large calvarium) of the face and calvarium at birth has undergone through all of these ages a slow but certain change, so that now the facial parts of the Caucasian at birth are strikingly diminutive and compressed as compared to the other parts of the body. This theory, if we can so designate it, is further reinforced by accumulating evidence showing a relatively greater difficulty in the process of parturition than occurred toward the primitive stages of the Caucasians racial existence. Furthermore, there is a strong probability (although investigation has not been made as fully as it ought to have been) that the Malay and Mongolian races, for instance, do not vary so universally as does the Caucasian from a purely natural type—so that neither the proportions of the foetal head are as large at full term, nor the maternal pelvis as small proportionally as those of the modern Caucasian.

It would, therefore, seem probable that possibly pre-natal, as well as post-natal, processes of development serve in a great measure as predisposing causes of the abnormal condition in question, because you are all aware of the fact that in civilized Caucasians more than 80 per cent bear the marks or unsymmetrical or abnormal developmental conditions of the upper respiratory passages. However, we have no time to go further into these interesting topics, the hereditary transmission of acquired proclivities, or the laws of catagenesis, further than to call attention again to the fact of the gradual and progressive declination of the Caucasian race from its aboriginal physiologic type,—especially in respect to the osseous frame work of the face. The particular devolutionary process by which the nasal region fails of development need not detain us, because this process has been formulated theoretically by different writers several times a year during the last quarter of a century. Although interesting, it is a subject which we leave for the embryologists of the future in the hope that they may discover the several steps of this early operation of nature. Suffice it to say, that departures from aboriginal conditions may and undoubtedly do in many instances give rise to the hypertrophic rhinitis so often occurring in early life.

One of the particular causes of the disease as has been often stated by observers is a neglected or overlooked ethmoiditis, or osteitis of the suppurative type, or some latent infectious disease of the accessory sinuses—either the frontal, sphenoidal or maxillary. Whether such conditions in infancy are connected in any accidental way with suppressed post-natal development of the facial bones is still an unsettled question, or whether such conditions are always the result of a primary sepsis is yet unsettled. Lastly the question of syphilitic taint in such infants has been brought forward from time to time as a common cause.

A wide range of inquiry among the old and well-settled general practitioners, to say nothing of statistical inquiries in that regard, would seem to indicate that the number of persistent chronic, so-called nasal catarrhs of whatever description met with in infants, is very small, while on the contrary in childhood it is very large.

Hence, it seems to me that we should firmly plant our belief upon this ground—namely, that the upper nasal passages in the Caucasian infant are only abnormally normal, and consequently a menace to the individual; that through this lack of typical structural integrity, and a consequent devolutionary degeneration which may be ascribed to the law of disuse (such as the degeneration of the sense of smell) a positive tendency to pathologic conditions is created. This being the case, it is easy to see how the lining membranes of these parts—in consequence of their highly vascular and neurotic supplies, and the limited space afforded naturally for the growth and development of all the integral elements of their composition, may become—as life advances and the various acute diseases of childhood are acquired—the seat of incessant histologic change.

Next, taking into consideration the artificial environment and mode of life of the modern Caucasian—(an artificial animal) we can readily understand how easily this may operate upon the already abnormal structure or other physical defects, or physical tendencies, which we have just been calling attention to. With the individual thus poised—so to speak—between a physiologic and pathologic line, it is obvious what results must follow the exciting causes which exist everywhere about in the form of diseases peculiar to childhood, as well as a generally pernicious environment. I would not be understood as stating that every case of hypertrophic rhinitis commences in childhood, for many of them, we know, have begun during youth and adolescence. Many of them come on later in life, undoubtedly from some peculiar alteration in the function of the sensory nerves or ganglia (such as probably occurs in hay fever, or

by the passages of motor impulses over sensory filaments, and vice versa); while many cases undoubtedly owe their origin to either untoward occupations or habits.

It seems to me among the most potent causes of hypertrophic rhinitis,—next to the lack of proper development of the nasal passages, naso-pharynx and accessory sinuses,—are attacks of measles, diphtheria, scarlet fever or the exanthemata generally. It is really very rare for any child to go through a course of one of these diseases without being left with some hyperplasia of the glands or vessels connected with the mucous membrane of the upper air passages—"the lymphoid ring." This is a matter of such common observation that it would seem beyond dispute. I speak now in a relative sense, because we have no absolute standard of size or condition for any of the glandulæ of the lymphoid ring. Indeed, the question of a diseased state hinges upon whether (a) there is too much secretion, (b) altered secretion, or (c) not space enough to contain the glands as they exist. Another great source of hypertrophic rhinitis which seems very obvious consists in the unhealthy mode of life which is pursued by the civilized Caucasian. Among the well-to-do class," the bodily dressing is either too much for indoors or too little for outdoors. Houses are too hot and illy ventilated; the food is too much, of too great variety, and too complex in its mixture, to say nothing of the use of too much alcohol. With the vast array of "fake" foods, and spreading indulgence in pernicious habits, the wonder is that more persons are not unhealthy. With the poorer class, there are similar defects of living—namely, too much clothing in the house; too much artificial heat; illy ventilated rooms; not enough cleanliness; too much alcohol used; and too much poor cooking. Keeping in view the function of the turbinate bodies—which is to become vascular and swell in order to protect the lower air passages from exposure to very cold air, by the radiation of heat to the incoming stream of air while at the same time mechanically diminishing the space for the limitation of the passage of the same, when necessary; too much stress cannot be laid upon the bad effects of exposure of the nasal passages to the sudden extremes of cold and heat alternately. Yet how many persons are thus exposing themselves during the winter season—going out from a dry-air of a temperature somewhere about 80 degrees into air at a temperature of from 40 degrees to below zero, thus straining the equalizing functions of both skin and nasal mucous membrane to the utmost. Frequent acts of this sort are likely, of course, to produce hypertrophic rhinitis, as well as other naso-pharyngeal abnormalities.

I apprehend that soon a newer etiologic factor will arise in the prevalent consumption of fake foods and nostrums. Through these foods and things, as the quantity of their consumption grows through the medium of that all powerful evil of dishonest advertising, there certainly will be a reactionary effect upon the glandular respiratory system originating in the digestive system. For we all know that abuses to the metabolic functions though expressed in one apparatus will effect others through the medium of the connecting branches of the sympathetic nervous system. In conclusion, it seems to me that this condition known as hypertrophic rhinitis—excepting for a few cases which may be directly traced to occupation or exposure—marks a process of physical alteration which has pursued our race in a ratio proportionate to our departure from the natural life of our aboriginal ancestors. It is therefore one of the conditions that will steadily prevail more particularly, of course, in certain climates than in others, and its defects and consequences will have to be met by medical and surgical art. We can scarcely hope for its eradication under the present conditions of human social affairs; but its amelioration can be gained by the careful supervision of the medical profession in guarding individuals and communities from the consequences of infectious diseases and unphysiological social life. In short, the Caucasian child, born with a preter-natural cerebrum and preter-natural face, reared to an artificial life, deprived of a full opportunity to become adjusted to the natural climatic environments, and doomed to an artificial life of indoor or abnormal activity throughout youth, adolescence, manhood, and womanhood, is destined to be the selective field of strife between those two cardinal evolutionary forces of nature—namely, constructive or organizing metamorphosis, and destructive or disorganizing metamorphosis.