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## HYPERTROPHIC RHINITIS, OR HYPERTROPHIC NASAL CATARRH.\*

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The mucous membrane of the nasal passages differs from all other mucous membranes. 1st, in being deposited or built upon rigid walls; and 2nd, in the tract being intended for the transmission of respiratory currents only. It follows, therefore, the foundation of the membrane being stationary, and the epithelial surface free from the cleansing power of friction, that the results of inflammation have a tendency to accumulate, the hypertrophic processes being almost unimpeded.

In this disease we have a true hypertrophy of all the normal elements of the mucous membrane. The principal changes, however, are found in the corpora cavernosa or deeper layers of the membrane. Here we have an abnormal deposit of connective tissue elements, together with infiltration by immense numbers of new cells. At the same time there is morbid proliferation of the surface epithelial elements. The glandular structures are likewise involved, though to a less extent. As the hypertrophy progresses, new blood vessels are formed, which in turn still further produce excess of growth. The result of the combined processes is, that the whole of the mucous membrane affected becomes materially thickened; and it throws out an increased secretion of mucous, which takes on a somewhat purulent character, by its admixture with newly proliferated cells.

This thickening or swelling is not, however, equally distributed. The parts affected become irregular; some parts more hypertrophied than others. Those chiefly involved are the free surfaces of the turbinated bones; the inferior being

most frequently affected, the superior least, and the middle one occupying a position, both with regard to frequency and severity, between the other two. Quite frequently, also when the hypertrophy is severe, the septum likewise becomes involved.

The venous sinuses over the posterior portions of the middle and lower turbinated bones being larger than in the other localities, these parts are likewise sometimes affected with hypertrophy, though not so frequently as the middle and anterior portions. Complete stenosis as a result, however, is more frequently found in the posterior, than the anterior or middle regions.

*Etiology.*—In the great majority of instances, hypertrophic rhinitis arises either from a succession of attacks of acute rhinitis, or as a continuation or result from chronic rhinitis. Hence the initial factors of these diseases are the direct causes of the hypertrophy. In some instances the disease is said to be idiopathic in its origin. Improper treatment of nasal diseases will likewise lead to hypertrophy, and I have known it produced by injury.

*Symptoms.*—One of the most marked symptoms of this troublesome disease is interference with nasal breathing. As the disease advances, the thickened membrane becomes much more sensitive to the effects of cold, damp or other irritants, resulting in still further thickening of the already hypertrophied tissue. When in this condition, there is often complete occlusion by the mere distension; while in advanced cases the true hypertrophy may be sufficiently great to produce permanent stenosis.

Any position favoring gravitation will sometimes produce temporary stenosis when hypertrophy exists. For instance, lying on one side will occlude the dependent nasal cavity. Lying on the other will relieve it, the occlusion being reversed; while the supine position may result in occlusion of both nostrils.

One of the physiological functions of the nose being to purify, moisten and regulate the temperature of the air of respiration, the occlusion of that organ necessitates the breathing of impure air of diverse temperatures. The result, in many cases, being the formation of chronic pharyngitis and laryngitis; and when a predisposition to lung disease exists, the development of tuberculosis also.

The voice acquires a nasal twang; and when

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