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## Original Communications.

### ATROPHIC RHINITIS.\*

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In selecting Atrophic Rhinitis as the subject of my paper, I was guided not only by the importance of the subject itself, but also by the fact that so little attention, as a rule, is paid to it by the general practitioner. Sufferers themselves, likewise, often ignore it, and remain practically without treatment until it has reached a stage in its development, when cure in any real sense has become impossible; and when the most that can be accomplished is arrest of progress, with relief of the most urgent symptoms.

This is the disease which, beyond all others, has for generations been known by the name catarrh, as significant of nasal discharge, accompanied by foul odor. It is needless to say, however, that catarrh is not a disease, but merely a symptom; and even as a symptom it differs widely both in character and degree, according to the pathological condition to which it owes its origin.

Among the many definitions of atrophic rhinitis which are given by leading authors upon the subject, no one, I believe, is so terse and comprehensive as that recently advanced by Wyatt Wingrave who says that:—

“It may be defined as a progressive and persistent form of dry rhinitis, characterized by a shrinkage of the mucous membrane, which tends to invade contiguous chambers, and is accompanied by the formation of crusts with more or less fetor of a special character.”

Of all the names, such as ozena, fetid coryza, dry catarrh, cirrhotic rhinitis, or the most recent one, atrophic ethmoiditis, suggested by Woakes, none is so suitable I think, as the one which is

the title of this paper; rhinitis being the term invariably applied to inflammation of the mucous membrane of the nose; and atrophica being significant of shrinkage of normal tissue wherever found.

The histological observations of Lennox Browne, and Bosworth, and Wingrave, more particularly the latter, open up a wide field for thoughtful study. The results of the recent microscopical examinations are summarized by Wingrave as exhibiting the following changes in every well marked case of atrophic rhinitis.

1. Transformation of the columnar ciliated and special olfactory cells into stratified squamous epithelium.
2. Disappearance of the hyaloid basement membrane.
3. The presence of special hyaloid bodies and pigment masses (first brought to the notice of the profession by Burnett).
4. Changes in the glands.
5. Changes in the lymphoid tissue and blood-vessels.
6. Changes in the bone.

Apart from the shrinkage which takes place in the various layers and in all the constituents of the nasal mucous membrane in this disease, perhaps the most striking features are the changes of the surface epithelium on the one hand, and the rapidly increasing number of hyaloid bodies on the other.

In the normal state the mucous membrane of the inferior turbinated bones, the lower half of the middle turbinals, and the lower two-thirds of the septum, is covered with ciliated epithelium, the special object of the cilia being to propel the serous and mucous discharges of the nose toward the anterior and posterior choanæ; and thus prevent their accumulation within the nasal cavities. In the atrophic condition, however, these cilia are gradually, and when the disease becomes severe, permanently destroyed—their place being taken by a layer of flat squamous epithelial cells in a state of constant desquamation. Below this we have stratified cuboidal epithelium in several layers; and then the adenoid or hyaloid layer beneath, with shrunken blood-vessels and acenous glands and cavernous sinuses almost obliterated. So that in place of a dozen square inches of the ever moving velvety cilia, we have a flattened

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