

SECTION IV.  
DISEASES OF THE RESPIRATORY SYSTEM.

I. DISEASES OF THE NOSE.

I. ACUTE CORYZA.

ACUTE catarrhal inflammation of the upper air-passages, popularly known as a "catarrh" or a "cold," is usually an independent affection, but may precede the development of another disease.

**Etiology.**—It prevails most extensively in the changeable weather of the spring and early winter, and may occur in epidemic form, many cases developing in a community within a few weeks. These outbreaks are very like, though less intense than the epidemic influenza, cases of which may begin with symptoms of ordinary coryza. The disease probably depends upon a micro-organism. Irritating fumes, such as those of iodine or ammonia, also may cause an acute catarrh of the nose.

**Symptoms.**—The patient feels indisposed, perhaps chilly, has slight headache, and sneezes frequently. In severe cases there are pains in the back and limbs. There is usually slight fever, the temperature rising to 101°. The pulse is quick, the skin is dry, and there are all the features of a feverish attack. At first the mucous membrane of the nose is swollen, "stuffed up," and the patient has to breathe through the mouth. A thin, clear, irritating secretion flows, and makes the edges of the nostrils sore. The mucous membrane of the tear-ducts is swollen, so that the eyes weep and the conjunctivæ are injected. With the nasal catarrh there is slight soreness of the throat and stiffness of the neck; the pharynx looks red and swollen, and sometimes the act of swallowing is painful. The larynx also may be involved, and the voice becomes husky or is even lost. If the inflammation extends to the Eustachian tubes there may be impairment of the hearing. Owing to the swelling of the nasal mucosa, the sense of smell and, in part, the sense of taste are lost. In more severe cases there are bronchial irritation and cough. Occasionally there is an outbreak of labial or nasal herpes. Usually within thirty-six hours the nasal secretion becomes turbid and more profuse, the swelling of the mucosa subsides, the patient gradually becomes able to breathe through the nostrils, and within

four or five days the symptoms disappear, with the exception of the increased discharge from the nose and upper pharynx. There are rarely any bad effects from a simple coryza. When the attacks are frequently repeated, the disease may become chronic.

The *diagnosis* is always easy, but caution must be exercised lest the initial catarrh of measles or severe influenza should be mistaken for the simple coryza.

**Treatment.**—Many cases are so mild that the patients are able to be about and to attend to their work. If there are fever and constitutional disturbance, the patient should be kept in bed and should take a simple fever mixture, and at night a drink of hot lemonade and a full dose of Dover's powder. Many persons find great benefit from the Turkish bath. For local treatment, particularly in the early stage, when the mucous membrane is swollen and there is a distressing sense of tightness and pain over the frontal sinuses, cocaine is very useful and sometimes gives immediate relief. The four per cent solution may be injected into the nostrils, or cotton-wool soaked in the solution may be inserted into them. Later, the snuff recommended by Ferrier is advantageous, composed, as it is, of morphia (gr. ij), bismuth (3 iv), acacia powder (3 ij). This may occasionally be blown or snuffed into the nostrils. Coryza is rarely serious in itself, but renders the subject more susceptible to other affections. The attacks should therefore never be slighted, and in young children and in the old especial care should be taken during convalescence.

II. CHRONIC NASAL CATARRH

(*Rhinitis simplex*; *Rhinitis hypertrophica*; *Rhinitis atrophica*).

In *simple chronic catarrh* there is increased irritability of the mucous membrane, particularly of the erectile tissue on the septum and turbinated bones. There is a tendency to frequent stoppage of one or both nostrils and the patient very easily catches cold. The secretion is at first clear and afterward thick and tenacious. The sense of smell is not specially disturbed at this stage. With the mirror the mucous membrane looks congested and swollen and the veins may be distended.

In *hypertrophic rhinitis*, which is usually a sequel of the former condition, the nasal passages are obstructed, chiefly by enlargement of the lower turbinated bodies and swelling of the mucous membrane of the septum. Very often there is hypertrophy of the adenoid tissue in the vault of the pharynx and of the mucous membrane about the orifices of the Eustachian tubes. The two conditions frequently go together as expressed in the designation, chronic naso-pharyngeal catarrh. The symptoms of this hypertrophic rhinitis may be local or general.

The most important local symptom is the obstruction of the passage of air through the nostrils, so that the patients become mouth-breathers.



During the day this may not be very distressing, but at night the mouth and throat get extremely dry and the sleep is disturbed. The voice becomes nasal in quality and in advanced cases, when the Eustachian tubes are obstructed, there may be deafness. It should ever be borne in mind by the practitioner that a very large proportion of all cases of deafness originate in chronic naso-pharyngeal catarrh. The general symptoms in these cases, particularly in children, are of the greatest importance, and have been considered more fully under chronic pharyngeal catarrh and mouth-breathing. Suffice it here to say that there is produced in children a characteristic facies, associated often with mental dulness and changes in the form of the thorax.

*Atrophic rhinitis*, which is also known under the names *coryza fetida* and *ozæna*, may be a sequence of the hypertrophic form. *Ozæna* is only a symptom, and is met with in many ulcerative conditions of the nostrils, particularly as a result of syphilis, foreign bodies, caries and necrosis of the bones, and glanders. Fortunately, the atrophic form by no means necessarily follows the hypertrophic stage. The cases are much more frequent in women than in men, and usually occur early in life. The mucous membrane is thin and covered with grayish crusts which, when removed, show a slightly excoriated surface, but true ulcers are rarely seen. The erectile tissue is completely atrophied by a process of slow connective-tissue growth, or, as J. N. Mackenzie calls it, a cirrhosis. The mucous membrane of the pharynx is usually dry and glazed.

The symptoms are most distinctive, owing to the horrible odor which comes from the nose, and of which, fortunately, the patient is himself unconscious, because the sense of smell is lost. The secretion, which is puriform, dries and forms large crusts, which are dislodged by picking or which gradually fall off. The cause of the offensive odor has been much discussed—whether it is due to a special organism or to specially favorable conditions for the growth and development of the germs of putrefaction. Probably the latter view is correct.

The *treatment* of hypertrophic rhinitis consists in the thorough cleansing of the nasal passages, the removal of the pharyngeal growths, and the reduction of the hypertrophied nasal mucosa. Operative procedures are necessary in a majority of the cases, and the practitioner should early call to his assistance the specialist. It is sad to think of the misery which has been entailed upon thousands of people owing to neglect of naso-pharyngeal catarrh by parents and physicians.

The treatment of atrophic rhinitis comes more properly under the special monographs.

### III. AUTUMNAL CATARRH (*Hay Fever*).

An affection of the upper air-passages, often associated with asthmatic attacks, due to the action of certain stimuli upon a hypersensitive mucous membrane.

This affection was first described in 1819 by Bostock, who called it *catarrhus æstivus*. Morrill Wyman, of Cambridge, Mass., wrote a monograph on the subject, and described two forms, the "June cold," or "rose cold," which comes on in the spring, and the autumnal form which, in this country, does not develop until August and September, and never persists after a severe frost. Blakley studied its connection with the pollen of various grasses and flowers. The late George M. Beard made many careful observations on the disease. Until recently this form of catarrh was believed to result exclusively from the action of certain irritants on the mucous membrane of the nose, particularly the pollen of plants, which, as the experiments of Blakley showed, play an important rôle in the disease. Other emanations also may induce an attack, as in the case of the late Austin Flint, who was liable to coryza, or even asthma, if he slept on a certain sort of feather pillow. This, however, is only one factor in the disease. A second, most important one, was discovered in the condition of the nasal mucous membrane in these cases. Voltolini, of Breslau, in 1871, observed the cure of a case of asthma by the removal of a nasal polypus. Since that date the observations of Hack, in Germany, and particularly of Daly, of Pittsburg; Roe, of Rochester; John N. Mackenzie, of Baltimore; and Harrison Allen, of Philadelphia, have demonstrated the association of asthmatic attacks with nasal disease. Daly discovered that in a large proportion of the cases of hay asthma there was local disease of the mucous membrane of the nose, the cure of which rendered the patient insusceptible to conditions previously exciting the attacks. This has been abundantly confirmed. Still identical lesions exist in many people who never suffer with the disease, so that there must be a third factor, a neurotic constitution. In the etiology of hay fever, then, these three elements prevail—a nervous constitution, an irritable nasal mucosa, and the stimulus.

The disease affects certain families, particularly, it is said, those with a neurotic taint. The peculiarity may occur through several generations. It is certainly more common in the United States than in Europe, and much more common in the United States than in Canada. The United States Hay Fever Association now numbers thousands of members.

Dwellers in cities are more subject than residents in the country. The structural peculiarities of the nasal mucous membrane are those of hypertrophic rhinitis. Harrison Allen states that the inferior turbinated bones lie well above the floor of the nostrils, which renders the mucous membrane more liable to irritation from inhaled substances. Deflection of the septum, hypertrophy of the soft parts, and excessive hyperæsthesia, so that