EDEMA OF THE LARYNX.*

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It is my intention in this paper to refer more particularly to those cases which have either some insignificant or undiscoverable origin.

It is quite possible to have laryngeal edema from any cause, however slight, capable of producing local irritation. Moritz Schmidt¹ has mentioned perhaps the simplest of all, an injury from a hard crust of bread, a circumstance which might easily be forgotten.

Among the more common causes may be mentioned traumatism, foreign bodies, irritating vapors and corrosive poisons, or we may have secondary edema in syphilis, tuberculosis, diphtheritic infection, or any disease of the larynx.

Angio-neurotic edema is an affection which manifests itself externally, but may invade the larynx. It is of an hereditary character, and seen in neurotic individuals.

Laryngeal edema is called typical when it occurs primarily in the larynx, consecutive when it is preceded by some other laryngeal affection, and contiguous when it extends from an adjacent part.

The term passive edema has been applied to those cases in which the laryngeal swelling is simply a part of a general anasarca.

There have been many writers upon this subject, perhaps the most prominent being Sestier², whose writings in 1852 have been extensively quoted.

The most recent observer to tabulate cases is Dr. C. C. Rice,³ who included all cases reported in ten years from 1887.

Since that time cases have been reported from various causes, as Anesthesia by England⁴, Angio-neurotic by Damieno⁵, Urticaria by Taylor⁶, Climacteric by Uchermann⁷ and Catarrhal by Clark⁸.

There are many opinions in regard to primary edema of the larynx, no less an authority than Mackenzie⁹ being responsible for the statement that he believes "in nearly all the instances of so-called simple inflammations, the disease is due to blood poisoning, and in every case seen by him an opportunity for infection had been present." Dr. Rice¹⁰ remarks that although the cause of many of the cases classified is given as catarrhal, he believes it to be quite possible that diphtheritic infection has not been satisfactorily excluded, nor the heart and kidneys examined.

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Rosenberg¹¹ credits Peltessohn with the opinion that an edema secondary to an inflammation more deeply situated may mask the primary condition.

There is without doubt a cause for all cases of edema of the larynx, as is true of all other affections, the terms primary and idiopathic being applied to those cases where the cause is undiscernable.

I think Lennox Browne¹² in his excellent chapter on the subject aptly states the case when he says: "It cannot be denied, however, that acute edematous laryngitis frequently occurs as an apparently primary affection."

The diagnosis of the disease is not difficult, and is always to be suspected in a sudden obstruction to the respiratory functions, especially in an adult. The patient appears anxious, restless and possibly cyanotic. The voice may be much affected and deglutition very painful. The local appearances are characteristic, the globular semi-translucent swellings on the lingual surface of the epiglottis, the ary-epiglottic folds, or ventricular bands, cannot be mistaken.

Bosworth¹³ describes the course of the disease as follows: "The tumefaction of the ary-epiglottic folds extends downward to and involves the ventricular bands, the membrane covering the arytenoid cartilages and the commissure, while in front the edema, starting on the posterior aspect of the epiglottis, mounts to the epiglottic crest and passes over, and is liable to extend as far as the glosso-epiglottic fossæ."

Hajek, of Vienna, on the contrary, teaches in his clinic, that, owing to the intimate relation between the mucous membrane and cartilage, and the entire absence of sub-mucous tissue on the posterior surface of the epiglottis, edema in that location is impossible, and bases his opinion upon attempts to artificially produce the affection in anatomical preparations, by sub-mucous injections. He also shows the presence of definite natural limitations, which offer a greater or less resistance to the extension of edema in the larynx.

The following case which came under my care has many points of interest. N. G., Hebrew, pawnbroker by occupation, forty-four years of age, weighing 162 pounds, came to me early on May 25, 1900, complaining of pain in his throat. He was a moderate smoker, temperate in regard to alcoholics, and had a negative personal and family history. On examination there seemed a marked discrepancy between the objective and subjective symptoms, for beyond a slight catarrhal pharyngitis and laryngitis, nothing was found to account for the symptoms which seemed to depend largely upon the

well-known susceptibility of the race to anxiety in sickness and a possible rheumatic element. Sodium salicylate was given with the assurance of an early recovery. On the following day I was called to his home and was struck by his changed appearance, his breathing being noisy and disturbed, his voice very difficult to understand and great pain manifested on swallowing. An external examination revealed nothing more than some tenderness over the region of the larynx, but internally both arytenoid cartilages and ventricular bands were represented by large edematous swellings, the epiglottis being unaffected. The vocal cords were barely visible through the small opening into the larynx and seemed to move freely. The usual remedies were employed, including ice and pilocarpine, but to no purpose, the swelling increasing until a few hours later a view into the larynx was impossible, and respiration greatly impeded.

Free scarification of the swellings was practiced with considerable relief, but on May 30th, five days later, tracheotomy was required. The operation was made necessary by a fixation of the cords in the adducted position rather than an increase of the swelling. This fixation is due according to Lennox Browne¹⁴ to a paralysis of the posterior crico-arytenoid muscles from serous infiltration. The tube was removed on the sixth day, after which the patient made an uninterrupted recovery. There still persists, a year later, a fixation of the right cord in a position a little to the right of the median line, but the defect is remedied by the free movements of the left cord, only a slight occasional huskiness remaining. The patient's physical condition is, as before the illness, all that can be desired.

In regard to the treatment, it may be interesting to note that suprarenal extract was tried with no appreciable effect. It has been recently highly recommended by Somers¹⁵ who reports a case of edema of the larynx as undoubtedly cured by it, and by Bates¹⁶, who mentioned several such apparent cures, I can hardly see why suprarenal extract should reduce an edema, but should expect it rather to hinder absorption from the sub-mucous tissues. Somers¹⁷ himself in another article says: "It prevents to a marked extent the toxic effect of local anesthetics by retaining them in the tissues and preventing absorption."

Scarification, in the experience of Shurly¹⁸, has never been attended with good results. It is recommended by most writers, however, and seemed to be the only treatment employed in this case with benefit.

Although I have never seen it so stated, I cannot but believe that a perichondritis might accidentally be excited by its employment.

Having treated this patient a month previous to his illness for a slight ear trouble, I had ample opportunity to know that he was free from chronic disease of the larynx. The ear affection was non-suppurative and offered no opportunity for infection. The heart and kidneys were examined and found normal. There was at no time any evidence of diphtheritic infection, and practically no constitutional symptoms until the first few days following the tracheotomy.

Moritz Schmidt¹⁰ believes potassium iodide to be responsible for many cases of edema of the larynx, and states that small doses seem more liable to cause the disease than large, the symptoms subsiding rapidly on the discontinuance of the remedy.

This patient had taken ten grains daily in divided doses, but as the remedy had been discontinued several days before the illness, it could not have been a cause, even were it possible to produce such dire results, with so small a dose.

While the extreme rarity of an edema of the larynx due to catarrhal conditions cannot be denied, in the absence of a more definite cause, I accept as the etiological factor in this case a simple acute laryngitis.

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