THE MOUTH, NOSE AND THROAT IN THEIR RELATIONS TO THE STOMACH AND INTESTINE.*

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My remarks will be restricted to the clinical relationship of the upper air tract and the gastro-intestinal organs.

If you but recall that the greater number of affections of the mouth, nose and throat are either local manifestations of some more general disturbance, as, for instance;

Laryngeal tuberculosis in pulmonary tuberculosis;

Mucous patches in syphilis;

Perichondritis of the larynx in typhoid fever;

Coryza in measles;

Angina in scarlet fever;

Paralysis of vocal cords in tabes;

Pharyngitis sicca in diabetes mellitus,

or that the regional disturbance creates or favors the introduction of other conditions, as a

Foreign body resulting in pneumonia;

Rhinitis resulting in erysipelas;

Septal ridges resulting in asthma;

Adenoids resulting in epileptic equivalents;

Diseased tonsils resulting in rheumatism;

then it will be seen that only a few remain as distinctly local affections, and you are at the same time more fully prepared to accept the cause and effect theory of respiratory and gastro-intestinal disturbances. But to designate in every instance which is the cause and which the effect is not possible. In many cases, a critical clinical observation shows the sequence of conditions. The same kind of mucous membrane and its continuity favor this. That both regions are the common highway for the introduction of chemical, thermal, microbic and parasitic irritation is another etiological factor. The intimacy of nerve and blood supply is also to be considered.

The association of the mouth, nose and throat affections with stomach and intestinal diseases has long been recognized, but owing to the division of the domain of medicine into its numerous

* A Paper Contributed to a Symposium on Gastro-intestinal Diseases, and read before the Chicago Medical Society, April 3, 1907.

special departments, there occurs not infrequently a neglect amounting at times to an absolute disregard for the other departments of medicine, so that too often we are looking with myopic eyes at a field whose confines are restricted by the anatomical boundaries of our chosen specialty, ignoring and forgetting that neighboring or remoter territories may influence or be influenced by our own.

As laryngologists, we are constantly called upon to determine the location of the cause of some symptoms like chronic cough; painful spot in the throat; hoarseness; dyspnea; dysphagia; nasopharyngorrhea; hyperesthesia; paresthesia; or a paralysis, and not infrequently our examination reveals a disturbance of the alimentary tract as the exciting or predisposing cause. The writer has observed cases of urticaria, herpes and angio-neurotic edema of the throat; acute laryngitis and chronic epiglottitis and laryngitis; acute pharyngitis and chronic naso-pharyngitis that have resulted from a disturbance of the digestive tract. Edema of the larynx in catarrhal inflammation of the bowels and also in cirrhosis of the liver has been reported by Schrötter, Schmidt, and Löri.

Take, for instance, the common canker of the mouth. Here we have the simplest and most frequent association of a disturbance of the digestive tract with the mouth. The same may be said of the coated tongue, stomatitis and the like. Although all of these conditions are commonly due either to changes in the salivary secretion, bad teeth, or a debilitated condition, in many the association with a disordered digestion is too patent to be ignored.

The acute pharyngitis so often observed at the commencement of typhoid fever, or the herpetic eruption of the pharynx, followed at times by deep and destructive ulcers, and the acute laryngitis followed in some instances by ulceration, perichondritis and paralysis, although not essentially the cause or effect of any bowel lesion that is present, but the association of the two conditions as manifestations of the same disease, become of common interest and importance to both the laryngologist and internist. An epistaxis occurring on successive days in a healthy adult, excepting for slight fever, or an attack of acute pharyngitis, are oftentimes the signal of an impending attack of typhoid.

The vomiting that may accompany chronic gastritis causes a passive hyperemia of the mucous membrane of the throat, and so does the regurgitation of dyspepsia. A faulty diet with its attending digestive disturbance may induce a lithemic condition that will often call forth most annoying and persisting nose and throat symptoms,

and if the digestive disorder is recognized as the promoting factor and corrected, the distressing rhinitis and pharyngitis are immediately relieved. Beverly Robinson has been frequently quoted as saying that the butyric acid and other products of gastric fermentation and putrefaction aggravate catarrhal states of the upper air tract.

In atony of the stomach and bowel, we have a condition favoring the absorption of toxic material, which becomes the irritating agent in the production of catarrhal changes of the mucous membrane. Nervous dyspepsia at times reflects itself onto the upper respiratory tract in the form of a hyperesthesia, paresthesia or paralysis. An overloaded stomach may give rise to spastic laryngeal symptoms, probably reflexly through the vagus. Spasmodic croup in children is frequently relieved by an emetic. Worms in children producing irritation of the intestines provoke or at least aggravate catarrhal manifestations of the nose and throat.

Chronic constipation may cause a hyperemia that ultimately results in thickening of the mucous membrane of the pharynx and larynx. Some of the large varices seen at the root of the tongue are produced by the same condition. There is a variety of constipation, many times present in anemia, wherein the collection of "clinkers" of fecal material constitutes the characteristic features. In these cases it is not uncommon to find nasal or laryngeal symptoms which are relieved whenever the inspissated masses are removed.

I have found that the presence of indican in the urine in excess has furnished me invaluable information as to the cause of many otherwise intractable cases of catarrhal conditions. Hence it is my practice in such cases to ascertain the functioning condition of these organs, and if they cannot easily be corrected by simple but judicious measures, they are placed in the hands of the internist who can correct them, and it is astonishing with what salutary results.

I wish to direct particular attention to two diseases of the digestive tract whose influence is felt in the upper air tract. The first in an atonic state of the stomach and bowels. The weakness of the expulsive forces that constitutes such atonic condition causes a dilated stomach and bowel, which results in the accumulation of food and gases, and the gradual increasing size of the organs causes pressure upon the blood vessels and nerves and displacement of neighboring organs, so that a true splanchnoptosis may result. It is in this class of cases that a chronic naso-pharyngitis is oftentimes found that will defeat every effort at treatment unless the

cause be recognized, and the patient referred to one conversant and skilled in the correction of such disorders.

The second condition that I desire particularly to draw your attention to is that of malignancy of the esophagus. In its early stage symptoms referable to the throat are at times complained of. The symptoms are either pain on swallowing or paresthetic sensations that are referred only to the fauces or pharynx. Personally, I have been led to a correct diagnosis of cancer of the esophagus by just these symptoms in several cases. The lack of this knowledge was the cause of my not recognizing the first case. In three cases there was no obstruction to the passage of food or drink. The pain is referred to the tonsils and root of the tongue, while the pain in malignancy or tuberculosis of the larynx is, as a rule, referred to the ears. I consider this symptom of such great value that in anyone complaining of painful or paresthetic sensations in the tonsillar region or at the root of the tongue, and in whom no positive local condition can be determined, or that is not purely hysterical, as strongly presumptive of beginning malignancy of the esophagus.

Thus far my argument has been directed to a presentation of some gastro-intestinal causations of upper respiratory affections. That reciprocal causative factors reside in the latter region is just as true.

In individuals affected with the raspberry-like enlargements of the posterior end of the lower turbinals, in the edematous swellings of the posterior nares, and in the disease known as Thornwald's disease, there is commonly a superabundance of thick, viscid secretion which, owing either to a repugnance on the part of the patient to hawk out, or an impossibility to do so, is swallowed, ultimately inducing such gastric symptoms as nausea, vomiting, gastralgia, and flatulency, which results in loss of appetite, irregular eating, and a perverted diet, so that these patients soon assume the additional burden of some true pathological disturbance of the gastro-intestinal tract.

In the presence of a chronic purulent disease of the nasal accessory sinuses, particularly the sphenoid and posterior ethmoidal cells, there is added to the abundant acrid secretions of the simple catarrhal affections the element of infection. In chronic empyema of the sphenoid sinus, with or without an associated nasopharyngeal atrophy, the purulent secretion can be seen trickling down the side of the pharynx from above, and passing into the esophagus.

The influence that nasal obstruction has upon the blood in lessening the number of red blood corpuscles and lowering the percentage of hemoglobin and the return to a normal condition after correction of the nasal difficulty, has been demonstrated by D. Braden Kyle, Schadle, and others. To my mind, the importance of this in the production of nutritive changes in the body is great, and may explain the origin of some of the digestive disturbances. If nasal obstruction reduces the red blood corpuscles and the hemoglobin, then there follows a lessening of blood oxygenation and a retention of carbonic acid gas, and as a consequence tissue metamorphosis is retarded, and as the excitability of the nervous and muscular tissues of the body depends upon a continuous and generous supply of oxygen, interference with the same induces among other conditions impairment of the assimilative processes.

I wish but to direct your attention to the physiological relationship of the sense of smell to stimulate appetite and digestion. When the sense of smell has been abolished by hypertrophic changes or destroyed as in some other cases, like atrophy, the sense of taste is perverted, and as a consequence the craving for food or its enjoyment is lacking, and a state of malnutrition can easily follow which is usually attended by a variety of symptoms referable to the gastro-intestinal tract.

Friedrich refers to the frequent association of dyspepsia with atrophic rhinitis and pharyngitis due, he avers, to swallowing of the fetid secretions.

The diseased faucial tonsil has come into considerable prominence of late as the cause of a host of body ills. But it can scarcely be disputed that a tonsil whose large crypts are filled with quantities of foul-smelling and multi-bacteria-laden secretion is not favorably located for the squeezing action of the muscles of the throat, which carries the contents of the crypt into the pharynx, where it mixes with the food, and thus contributes to the production of fermentive changes in the stomach or aggravates a pre-existing condition therein by providing the infecting material. Several observers (Turck and Stucky) have investigated the bacterial relationship of these two regions in affections occurring concomitantly, and their findings indicate a cause and effect.

Many of these diseased tonsils require the most scrutinizing examination to disclose the existence of any trouble. The gland may be small and present no signs of redness or cryptic involvement, until it is rolled out from behind the anterior faucial pillar, and its

numerous crypts are explored with a fine probe. This is particularly true as to the supratonsillar space, and especially so when the plica triangularis is over-prominent and hypertrophied. Large cavities or dilated crypts filled with pus emptying into the throat through an apparently normal-looking crypt opening have come under my observation, the abundant purulent secretions having been swallowed and having set up profound digestive disturbances as well as septic symptoms. Several workers have directed attention to the association of suppurative disease of the tonsil with attacks of appendicitis, suggesting something more than a coincidence of affections.

Mycosis leptothricia is especially noted by some observers (Richardson and Ingals) as being associated with gastro-intestinal disturbances.

Another variety of the mycosis, in which its parasite, *sarcina ventriculi*, has been actually found present in the stomach (Good-sire, 1842) associated with the condition in the oral cavity and pharynx, is the mycosis *sarcinica*.

In a third variety of mycosis known as actinomycosis, Abbe reports a case located in the esophagus secondary to its appearance in the mouth.

In a fourth variety—mycosis *mucorina*—Sendziak reports Paltauf, of Vienna, as having observed a case with enteritis and peritonsillitis. The patient died after fourteen days and the phlegmon showed the parasite, *mucor corymbifer*.

In mycosis *soorina*, known also as thrush, we have a variety of mycosis common in the mouths of infants, and not infrequently it is associated with digestive disturbances.

The implication of the esophagus in any of the mycoses, according to Sendziak, is, as a rule, one of continuity of tissue from the mouth. Nevertheless, primary cases have been reported in the esophagus (Mackenzie) and the stomach (Zalesky).

In pulmonary tuberculosis the question of reinfection from the swallowing of the sputa is reasonably established.

Affections of the teeth and gums occupy a conspicuous position in the causative relationship with gastro-intestinal disturbances, but the subject is entirely outside my province to discuss.