

mucus is accomplished by exosmosis through the three tunics which enter into the composition of the closed follicles. In the normal condition, this tonsil mucus is neutral or alkaline and sufficiently fluid. As soon as it loses its alkalinity, it thickens and is with difficulty eliminated from the follicles whence it is elaborated. Now if during the catarrhal phlegmasias so frequent in the tonsils, the secretion of the follicles becomes acid, it necessarily loses its fluidity, and no longer being able to pass out of the closed follicles, it accumulates in them and rapidly augments their volume, causing pressure on the vessels, nerves and stroma, and hyperæmia with strangulation, having a striking analogy with anthrax. Owing to the above conditions there is pain, increasing greatly each time the patient makes an effort at swallowing, ultimately fever, cephalalgia and the symptoms of concomitant gastric catarrh which characterize angina tonsillaris. The extension of the phlegmasia to the Eustachian tube gives rise to otalgic pains and to a certain degree of cophosis, to be explained by the presence in this locality of a group of muciparous follicles derived from the glands which form what are called the tonsils of the Eustachian tube.

Perhaps for my object I have dwelt unnecessarily on the pathology of angina tonsillaris, but I trust that the preceding details will be of service in explaining the action of bicarbonate of soda and the abortive influence it possesses. If the alkalinity of the buccal mucus is an essential condition of its fluidity, and if this quality is lost at the onset of catarrhal inflammation, it is evident that an alkali penetrating the cavity of the follicles will liquefy the mucus and place it in the necessary physical condition for transuding, the glandular retention will cease, and the affection will be immediately cured. This abortive action succeeds at an early period, often within twenty-four hours. When the follicles are already swollen, exercising compression on the stroma, the vessels and nerves of the gland, the secretion will no longer be the chief pathological element; but there will be more or less advanced inflammatory hyperæmia. Here again the alkaline remedy may be serviceable and lead to the evacuation of the follicles, but the inflammatory process already commenced will not terminate in speedy resolution, but will follow its course, more or less long, according to the

degree of inflammation. Finally, when the tonsillary inflammation has arrived at the highest degree and has propagated itself to the glandular parenchyma, the alkaline medication will have no influence.

The tonsillary phlegmasiæ are greatly disposed to relapse and to leave hypertrophy, with thickening of the mucous and chronic infiltration of the connective tissue. In this case the bicarbonate of soda, applied in the manner I am about to describe, will have a beneficial action and will prevent the necessity for the operation of tonsillotomy. In the initial period of free amygdalitis, characterized by slight pain in deglutition, the effects of bicarbonate of soda are as rapid as certain. It should be applied dry. If the patient is old enough he can make the application himself. It suffices to moisten the corresponding index finger of the side of the affected tonsil, to cover it as thickly as possible with the salt and then to place it on the affected tonsil so that the bicarbonate becomes adherent to it. The patient will remain for two minutes with the mouth open and without swallowing, so that the bicarbonate will remain a sufficient time in contact with the tonsil. It will soon be noticed that the salt liquefies on the mucous membrane and penetrates the follicles of the gland. Five minutes after, the application is repeated in the same manner, and continued every five minutes for five or six times. After that the patient may attempt to swallow and will be surprised to find that he may do so without inconvenience. From this moment the angina is aborted. It is unnecessary to say that, in the case of small children, this operation must be performed by means of insufflation. The nausea and the salivation that the presence of the finger and the contact of the bicarbonate in the throat produces, far from being detrimental, are powerful auxiliaries to the treatment, since the sudden contraction of the muscles favors greatly the evacuation of the muciparous follicles. Nevertheless, it is always preferable to operate when the stomach is empty, in order to avoid vomiting. When the symptoms of fever which indicate the ascending period of amygdalitis are established, with considerable tumefaction of the gland and sharp pains in deglutition, it will even then be desirable to try the bicarbonate as a resolvent to favor the evacuation of the muciparous glands, promote resolution and diminish the suf-