

## II. ETIOLOGY.

In 1786 John Hunter taught that the gastric juice did not attack the healthy mucous membrane, because of a specific property of the living cells which he called "The vital principle." No better explanation for the immunity of the mucosa of the stomach to the action of its own secretion has ever been offered. Bernard held that the non-digestion of the mucous membrane was due to the property in the epithelium that prevented the absorption of the gastric juice. Stricker thought that the mucus formed in the stomach protected its surface. Pavy claimed that the alkaline blood prevented the digestion of the stomach tissues. Hunter's and Pavy's views are the only ones that have the weight of clinical and physiological evidence in their support.

In the great majority of cases of gastric ulceration there is a state of hyperchlorhydria on the one hand, and anæmia and reduced blood alkalinity on the other. It is quite true that there are cases of gastric ulcer in which the amount of hydrochloric acid is below normal; but there must be present some offsetting condition that enables such a type of gastric juice to act upon the gastric mucosa.

From clinical observation, post mortem investigation, and experimental research, it has been accepted as established that the following conditions play the most important part in the etiology of ordinary ulceration of the stomach:

1. Hyperchlorhydria, hyperacidity, or hypersecretion of the gastric juice.
2. A reduced vitality, or lowered resistance of the mucous membrane.
3. Changes in the blood, such as reduced alkalinity in chlorosis.
4. Some form of local bacterial infection, causing thrombosis, embolism, or necrosis of tissue.

Under one or other of these headings almost every case of gastric ulcer can be classified. Instances of the disease due to the swallowing of some corrosive chemical or overly hot liquid, or to injury from a spicula of bone, a blow from without or certain occupations causing pressure, would come under the division of reduced vitality or lowered resistance on the part of the mucous membrane, which would permit of the self digestion of the enfeebled portion of the mucous surface by the contained gastric juice.

Some authors contend that many instances of gastric ulcer are due to infection by some microorganism. The methods by which these organisms act are now much better known than was the case a few years