

well as duodenal ulcer after disappearance of ulcer.

Changes of the secretory function were not observed through the process in intractable cases of peptic ulcer and this fact was confirmed comparing with gastric tube method using penta-gastrin 6 r/kg stimulated.

### 237. INTERDEPENDENCE BETWEEN ACID BASE BALANCE IN ARTERIAL BLOOD AND GASTRIC JUICE SECRETION

M. MIWA

*Dept. of Anesthesiology, Kansai Medical School*

Y. SAMESHIMA, T. MIZUNO, M. SASAKAWA

*Dept. of Second Internal Medicine*

This presumptive study is a trial to achieve an approach to problems with regard to interdependence between acid base balance in arterial blood and gastric juice secretion.

The results to be reported herein are as follows.

- 1) Gastric juice pH is not always coincident with clinical acid base balance picture. The fact fails us to confirm Davenport's carbonic anhydrase theory in which both  $\text{HCO}_3^-$  as buffer anion and  $\text{Cl}^-$  as fixed acid play main role in direct regulation of gastric juice acidity. However another careful consideration should be took into account from the stand point of residual ion index, as will be stated later, which can be thought to present extrabarbonate buffer system.
- 2) Residual ion index shows characteristic values in various gastric diseases rather than bicarbonate. In gastric cancer it shows the highest value and then presents linear decrease from gastritis to gastric ulcer in order.
- 3) The high residual ion value in gastric cancer can be attributable to destruction of blood cell and body tissue due to cancer. It is conceivable, therefore, to find a clinical significance in diagnosis of gastric cancer in this respect.

### 238. DISACCHARIDASE ACTIVITIES IN INTESTINAL METAPLASIA IN CHRONIC GASTRITIS

M. ABE, H. SAKANO, H. ISHIZU, N. OHUCHI, M. AKAMATSU, T. MATSUMOTO,  
and T. MASUYA

*The Third Department of Internal Medicine, Faculty of Medicine, Kyushu University*

In the previous reports, we pointed out that histoenzymatic pattern of intestinal metaplasia principally resembled that of the small intestine, however, there occurred some enzymatically incomplete metaplastic cells, too.

In the present study, disaccharidase activities (Maltase, Sucrase and Lactase) which localize on the striated border of the villus cells of the small intestine, were biochemically examined in intestinal metaplasia found in stomachs.

In normal gastrointestinal mucosa, disaccharidase activities were highest in the jejunum followed by the duodenum. (Maltase > Sucrase > Lactase)

In the normal stomach and colon, the activities were very low. Following the appearance of intestinal metaplasia in gastric mucosa, the activities were significantly elevated, especially for Maltase and Sucrase and not for Lactase.

Elevation of the activities was marked in the stomach harbouring cancer.

However, there were some cases showing relatively low disaccharidase activities even in the presence of morphologically high grade of intestinal metaplasia.

Activities of Maltase and Sucrase correlated to that of leucine aminopeptidase.