The Correlation Between the Lactic Dehydrogenase Isozyme Pattern and Blood Flow of Gastric Mucosa Measured by ¹³¹I-MAA

K. ASANO

Department of Internal Medicine, Okayama University Medical School, Okayama

The incidences of gastric ulcer and cancer differ greatly by the site of the stomach and these diseases have predilection for the area covering lesser curvature between antrum and pylorus. The studies on lactic dehydrogenase (LDH) isozyme of gastric mucosa as a biochemical approach for the elucidation of occurrence of gastric diseases.

The different patterns of LDH isozyme were observed in gastric mucosas of human, rabbit and rat, when these results are compared with the section of gastric mucosa, the LDH isozyme patterns were observed the same tendency between the lesser and greater curvatures in these animals. The mucosa of lesser curvature shows predominantly M-type LDH, hence it is more adaptable to anaerobic condition, whereas the greater curvature reveals more of H-type LDH, thus more adaptable to aerobic condition.

In order to clarify whether or not these differences arise from the difference in the blood flow due to the different sites of the stomach, the blood flow in the stomach of rabbits was measured.

For this experiment at first ¹³¹I-MMA were injected into the aorta and after removing the stomach, scintiscanning was performed. The scintigram of the stomach showed the significant difference between the pyloric and fundic gland areas, suggesting a lesser blood flow in the former region. The same results were observed in the study of ¹³¹I-MAA uptake of gastric mucosa by means of scintillation counter. However, there was no significant difference between the lesser and greater curvatures. In contrast, LDH isozyme in the gastric mucosa of rabbit shows a marked difference between the lesser and greater curvatures, hence the difference in isozyme pattern seems not to be due to the difference in the amount of blood flow.

Detection of Intravascular Thrombi in Dogs by Means of ¹³¹I-labeled Urokinase

M. NOTO, M. MURAKAMI, M. KURODA, K. ONCHI and I. HOSHIKA

Second Department of Internal Medicine, Kanazawa University School of Medicine, Kanazawa

At the meeting of this association last year, we reported on the observations of invivo behavior of ¹³¹I-labeled urokinase (¹³¹I-UK), in which investigations were focused on the distribution of ¹³¹I-UK in human body and the origin of urokinase. The detailed description was seen elsewhere (Jap. J. Clin. Hematol., 7: 288, 1966). In this paper, the studies have been intended to observe the uptake of ¹³¹I-UK by fibrin clot, and to detect intravascular thrombus by external scintillation counting.

Exper. 1: Observations on the uptake of ¹³¹I-UK by fibrin clot in vitro: Human fibrinogen, concentration of 4.0, 1.0 and 0.25 per cent each, respectively, was clotted by thrombin; to each of which small amount of ¹³¹I-UK was added, and incubation was performed at 37°C for several hours. The uptake of ¹³¹I-UK by the clots was almost proportional to the fibrin concentration. On the other hand, the uptake of ¹³¹I-UK by heat-treated fibrin clot (at 85°C for 45 min.) and/or the uptake of ¹³¹INa by fibrin clot was negligibly slight. These findings suggest that ¹³¹I-UK is taken by fibrin clot with considerable affinity, not by contamination.

Exper. 2: Detection of intravascular thrombi in dogs by means of ¹³¹I-UK: Under the pentobarbital sodium anesthesia, the up-