retarded in chronic leukemia and lymphoma. In cases with hypoplastic anemia, which had been treated with corticosteroids, reduced clearance was observed.

It is reasonably assumed that clearance rate is much influenced by blood flow rate through the organ. Therefore, the ratio of corrected clearance rate to maximal rate shown at zero time in splenic uptake curve, representing effective blood flow, was adopted as sequestration fraction, since this ratio is thought to reflect median extraction fraction by single passage. Ln congestive splenomegaly, although this sequestration fraction fell almost within normal range, the value was proportionally correlated with the level of portal pressure.

In chronic leukemia, the value of this fraction was markedly reduced and significantly correlated inversely with splenic volume estimated by scintigraphy.

Existence and localization of predestructive erythrocytes pool was determinde in the rat spleen by autoradiography using ^{3}H-DFP-labeled heat-treated isologous erythrocytes. Damaged cells appeared to accumulate isolatedly in sinusoids and in pulp cords before they underwent destruction which was assumed by increase in grain counts in macrophages. Incease in splenic capacity to contain such pool is considered to be one accelerating factor to damaged cell clearance.

Influences of Spleen upon Hematopioesis

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It has been known that there is a close relationship between bone marrow hematopoiesis and splenic functions. In fact, splenectomy may induce a favorable effect in certain cases of ITP, Banti's syndrome and hypoplastic anemia. However, there are many unsolved problems regarding splenic functions, and it is often difficult to determine the indication of splenectomy in these various blood disorders.

It is for this reason that an effort was made in this report to elucidate the functions of the spleen in patients with blood diseases, especialy hypoplastic anemia. Sequestration of ^{51}Cr- or ^{203}HgMHP-labelled erythrocytes by spleen RES and ^{59}Fe ferrokinetics were first investigated. Furthermore, female ICR mice were rendered either typo- or hypersplenic state by chloramphenicol administration, splenectomy or by γ-globulin sensitization.

Results of these experiments were as follows:

1) With respect to the sequestration of heat-treated ^{51}Cr-labelled erythrocytes, there was an invert relationship of activity between spleen and bone marrow RES.

2) Bone marrow hematopoiesis was suppressed in the presence of hyperfunctions of RES, especially of spleen RES.

3) Administration of chloramphenicol tended to suppress hematopoiesis and to augument the functions of RES.

4) Sensitization by γ-globulin clearly increased the RES functions and lowered hematopoietic activity.

5) It is suggested that those cases of hypoplastic anemia presenting with an increased splenic clearance of heat-treated, ^{51}Cr-labelled erythrocytes, a high marrow uptake rate of ^{59}Fe and I-type myelogram (bone marrow retention type) are indicated for splenectomy.

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