THESIS TITLE	Pharmacologial modulation of thalassemia platelet mediators and functions
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ABSTRACT

The defects that occurred to the platelets in a splenectomized thalassemia patient (NiT) were closely followed in this study. This represents an effort to avoid the uncontrollable variation of data derived from studies with groups of subjects, in which the "thalassemia syndrome" represents a wide spectrum of pathological defects. Blood samples were taken into siliconized-glass tubes containing sodium citrate (9:1). Impedance aggregation was performed in the half diluted whole blood with normal saline. Platelet counts in the

whole blood and in the platelet rich plasma were respectively readed from the Technicon H-1 and Coulter-thrombocyte counters. The ratio of platelet counts in the freshly prepared PRP (F-WB PRP) to that in the PRP from 2-hour settled blood(S-WB PRP) was recorded as **FS-Platelet Count Ratio**, representing the "integrity index" of platelets. Conventional optical aggregation was performed in both F-WB PRP and S-WB PRP with a Born-type aggregometer. The release of ATP from the activated platelets was simultaneously monitored of the emitted chemiluminescent light from the coupling reaction of ATP and firefly luciferase. It was found that splenectomized thalassemia blood was in hyperaggregated state . Spontaneous aggregation frequently occurred following mechanical stimulation and the responsiveness of the whole blood to ADP stimulation was greatly enhanced in the impedance method . The fragility of platelets in splenectomized thalassemia blood was further supported by the lower value of **FS-Platelet Count Ratio.** In addition, the lesser extent of optical aggregation in F-WB PRP was in contrast with that of the S-WB PRP suggesting that contaminations of RBCs, debris cells and microaggregated platelets in the F-WB PRP might be the likely responsible factors.

Blood samples taken following an ingestion of 50 mg dipyridamole (1-hour after) started to show a number of changes that occurred to some detectable parameters.