STUDIES ON THE TREATMENT OF DRUG-RESISTANT CASES OF KALA-AZAR *

I. On Hypersplenism and Splenectomy in the Treatment of Drug-resistant Cases of kala-azar with Special Reference to their Effect on the Blood and Bone Marrow pictures

* 1958年11月(在上海)全国寄生虫病学术会议论文摘要汇编，英文版 66-67页

AbstrActs Transact. All China Coference Parasitic Diseases, Shanghai, Nov. 1958, P. 66-67.

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I. On Hypersplenism and Splenectomy in the Treatment of Drug-resistant Cases of kala-azar, With Special Reference to their Effect on the Blood and Bone Marrow Pictures

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In order to secure complete cures in the drug-resistant cases of kala-azar, splenectomy was performed in 10 such patients. From the examination of the blood and bone marrow of these cases both before and after operation, it was found that, without exception, a rapid return of the blood and bone marrow pictures to normal, including the platelet producing function of the megakaryocytes, was induced by splenectomy alone without the need of any other form of specific therapy. It is therefore indisputable that hypersplenism is the main cause of the pancytopenia in kala-azar. In regard to the mechanism through which hypersplenism may influence the hematological aspect of kala-azar, two possibilities may be considered.

1. The spleen may produce or secrete a certain substance or hormone which inhibits the hematopoietic functions of the bone marrow, thereby causing a decreased production of blood cells.

2. There is an increase in the phagocytosis of the blood cells in the spleen, not only because of the hyperplasia of the reticuloendothelial cells of the spleen, but also because of splenomegaly. On account of the splenic enlargement, there is a significant extension in the surface of the vascular circulation in the spleen. The increase in the intrasplenic vascular bed and the slower rate of blood flow in the spleen facilitate the phagocytosis of red cells, white cells and the platelets.

Of these two possible mechanisms, we are of the opinion that, at least in kala-azar, the first one is probably more important, because in early cases of kala-azar the leukopenia and thrombocytopenia are already eviden even

when the spleen is not yet easily palpable. Furthermore, in cases studied by us, the platelet producing function of megakaryocytes which was strikingly disturbed before splenectomy, rapidly became normal or even more active than normal after splenctomy. this fact would seem to support the hypothesis that the spleen produces or secretes a substance or hormone which inhibits the hematopoietic function of the bone marrow.

Our observations indicate that in the treatment of obstinate drug-resistant cases of kala-azar splenectomy has a sound theoretical basis and is a treatmet of practical significance. the argument for this is that 10 antimony resistant cases all responded to splenectomy very satisfactorily, and two of them were eventually cured without giving further treatment. However, splenectomy is a major operation and its indication should strictly be limited to those cases which are really obstinately drug-resistant.