



# HOKKAIDO UNIVERSITY

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## Abstracts of "Tuberculosis Research"

Vol. 29, 1969

### A study of hypersensitive reaction against tubercle bacilli in the rabbit appendix

Akio TAKAHASHI

In order to study the hypersensitive reactions in the appendix, normal rabbits and rabbits sensitized with killed tubercle bacilli were injected into the wall of appendix with living or killed tubercle bacilli.

- 1) In the sensitized animals the epithelioid cells were found from the first day after injection with killed bacilli, and from the 3 day with living bacilli. However, in non-sensitized animals the cells were found from the 5 day after injection with living or killed bacilli.
- 2) Pyroninophilic blast cells were found in the 5 day in and around the follicles of appendix, and disappeared 3 weeks later. Plasmocytes were absent in the follicles.
- 3) As the tuberculous changes of appendix became intensive, the lymphoid cells flowed in large amount out of the follicles.

### Immunopathological Studies on Antibody Formation VI. Effects of the thymectomy of new born rabbits to the tuberculous infection and antibody responses

Eiji HAMADA

Thymectomy of neonatal rabbits has a possibility to provoke a functional disorder in the periferal lymphoid tissues such as the appendix, Peyer patches, spleen and lymph nodes. Therefore, the effects of neonatal thymectomy to the development of the lymphoid tissues, to the pathological changes following infection of tubercle bacilli and the initiation of antibody responses were investigated.

Neonatally thymectomized rabbits were inoculated with virulent living tubercle bacilli 3 weeks after birth, then they were injected intravenously with sheep red cells. The results obtained were as follows :

- 1) In the thymectomized animals, small lymphocyte population in the white pulp of the spleen was less marked than in the control animals. However, almost no difference in the histological development of the lymphoid tissues was observed between the thymectomized and control animals.
- 2) The antibody formation against sheep red cell was considerably suppressed in the thymectomized group, while tuberculin sensitivity was not affected until 8 weeks after birth.
- 3) The focuses of the tuberculous lesions of the lymphoid organs in the thymectomized group were found increased in number than in the control group.

Studies on the Autoimmune Mechanism in the  
Occurrence of Endogenous Uveitis

I. Demonstration of autoantibodies by passive hemagglutination

Hideo KUDO and Takuro KIMURA

Serum samples taken from patients showing the Vogt-Koyanagi-Harada or Behçet syndrom were examined for the existence of autoantibodies against their own uveal tissues by passive hemagglutination reaction.

From the serological point of view, the autoimmune mechanism seemed to have something to do with the occurrence of endogenous uveitis, because some of the sera tested were proved to have such an autoantibody.

Demonstration of the Antibody Activity in Fd' Fragments  
of Rabbit  $\gamma$ G Antibody

Tohru OHARA, Teiko YAMASHITA,  
Mitsuaki KAKINUMA and Takuro KIMURA.

By gel filtration through Sephadex G 200 column, Fd' fragment of anti-HSA rabbit  $\gamma$ G-immunoglobulin was eluted with constant contamination of small amount of L Chain. Thus the separation of pure Fd' fragments free from L chain being unsuccessful as yet, our experimental data have shown that the antigen-binding site of antibody was proved to reside in Fd' fragment but not in L chain.

Alkaline Hydrolysis of 1, 2, 5,-Thiadiazole Dicarboxylic  
Acid Bishydrazide

Isao SEKIKAWA

The alkaline hydrolysis of 1, 2, 5-thiadiazol-3,4-dicarboxylic acid bishydrazide (I) afforded 4,5-diamino-3,6-dihydropyridazine (III) in 60% yield. Treatment of III with formic acid gave 4,7-dihydroxy [4,5-d] pyridazine (IV), which upon chlorination furnished 4,7-dichloroimidazo [4,5-d] pyridazine.

Experimental and Clinical Studies on the Passive Hemolysis  
Reaction by the Phosphatide of the Tubercle Bacillus

Yu-sho HUSE

It is a well known fact that sheep red cells sensitized with phosphatide from tubercle bacilli give rise to a passive hemagglutination in the presence of sera either from animals immunized with killed tubercle bacilli or from patients with pulmonary tuberculosis.

In the present study, it was found that this phosphatide hemagglutinating system manifests itself as a hemolysis reaction, if an adequate amount of guinea pig complement is added to it, either before or after the hemagglutination reaction is observed.

The hemolysis antibody was found to be distinct from the hemagglutinating antibody ; both in animals and patients, there were many cases in which only hemagglutination was observed without hemolysis and vice versa.

In contrast to the phosphatide hemagglutinating antibody, the blood level of the phosphatide hemolysis antibody proved not to be coincident with the importance of the symptoms of tuberculosis disease.