Antigenic Structure of Connective Tissue

D.	Sulitzeanu

University of Jerusalem Medical School

Author's address: Prof. D. Sulitzeanu, University of Jerusalem Medical School, Jerusalem (Israel)

Preparations rich in connective tissue were isolated from organs of normal rats and partly solubilized by sonic vibration. Antisera were prepared against the insoluble organ residues and also against several soluble fractions partly purified by ionic exchangers and preparative disc electrophoresis. The antisera were used to analyze the antigenic content of the soluble fractions by agar diffusion and to establish the connective tissue origin of the antigens by the fluorescent antibody technique.

A large number of components was revealed in the connective tissue preparations by the agar gel analyses. Extensive cross reactions were found between fractions isolated from different organs. The various antisera gave different diffusion patterns, yet the fluorescent antibody staining obtained with them was almost identical. All antisera stained the blood vessels, basal membranes, sarcolemma and neurilemma in the several organs tested. It was concluded that the connective tissue contains a complex mixture of antigens, located at the same sites.

A comparison was made between connective tissue antigens derived from normal rat livers and from livers of rats made cirrhotic by treatment with carbon tetrachloride. Normal and cirrhotic connective tissue antigens were tested against antisera prepared with normal or cirrhotic material. The cirrhotic connective tissue contained all the antigens found in the normal liver and, in addition, 2 antigens which were either absent or present in small amounts only in the normal liver.

Similar studies were undertaken with connective tissue preparations obtained from human liver, kidney and placenta and the corresponding antisera. The results were similar to those obtained with rats: a) complex mixtures of antigens were found in all preparations; b) fractions isolated from different organs showed extensive cross reactivity in both the agar diffusion and the fluorescent antibody experiments. The anti human liver serum reacted also with organs of rats and dogs in the fluorescent antibody tests.