THE HISTOLOGICAL EVALUATION OF THE IMMUNE COMPETENCE OF HUMORALLY IMMUNE DEFICIENT SPRAGUE-DAWLEY RATS

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An Epizootic of a *Klebsiella aerogenes* infection in a stock of Sprague-Dawley rats was previously reported, with the demonstration of significantly depressed humoral immune responsiveness (to sheep red cells) as the probable predisposing cause.

We now report the histological evaluation of the immune reactivity of the central and peripheral lymphoid tissue of 17 affected rats in comparison with that in 14 control SD rats, following primary immunisation, intraperitoneally with sheep red blood cells.

There were no differences between the affected and control rats in thymic histology. The intentisyt of the humoral and cell mediated zone reactivity in the spleen of a given rat (affected or control) equalled that in the corresponding lymph nodes. In 10 affected rats which showed splenic haemolytic plaque forming cell counts of less than 50% of their controls, 6 showed normal B zone reactivity. Four showed diminished reactivity although their T zone reactivity was normal. These findings probably indicate a functional deficiency of antibody (production or function) in the rats with normal histological responses. In the rats with B zone hyporeactivity, the deficiency resembles that in human congenital X-linked immunoglobulin deficiency. The origin of these deficiencies is unknown.