Jerne's hypothesis. For example, antibody to H antigen should be monoclonal; the frequency of plasmacytomas producing myeloma proteins with specificity directed against H antigens should be high; and progeny of matings between parental responders and non-responders of different allotype, or allopheic mice derived from these parental strain animals, should be responders and make specific antibody of the nonresponder allotype. Information presented at the conference supports the first two of these predictions. Ramseier and Lindenmann's experiments demonstrated that serum obtained from A/B F1 animals that had been inoculated with immunologically competent parental strain A lymphocytes contains factors which specifically block stimulation of A strain lymphocytes by B strain antigens. The explanation offered for this intriguing finding was that A/B animals were making antibody against receptors on A strain lymphocytes specific for B strain H antigens; this implies that receptor sites on A lymphocytes for B strain antigens are relatively homogeneous. Walford presented data indicating that of ten human myelomas thus far examined, three were directed against HLA antigens, and two of these three were directed against HLA-5.

The large number of host lymphocytes reactive to H antigens of other members of the same species was discussed extensively. Essentially four different points of view emerged as possible explanations: the Jerne model; the Moller-Mitchison view that the high density of H antigen determinants on lymphocyte membranes activates cells with low affinity binding sites and causes them to undergo blastogenic transformation and to produce mediators of cellular immunity; the Cohn-Good-Lawrence hypothesis that the large number of reactive cells represents prior antigenic experience of the animal with cross-reacting environmental antigens or with tumor specific antigens on neoplasms suppressed successfully; and finally the “anticonatalist” concept of Simonsen that these cells are basically multipotential.

The edited proceedings of this conference will be published by Academic Press as the third volume of the series “Perspectives in Immunology.”

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