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Original Article

Characterization of Ribosomal P Autoantibodies in Relation to Cell Destruction and Autoimmune Disease

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Abstract

Autoantibodies against the ribosomal P proteins are related to cell death and tissue destruction and are frequently exhibited in patients with systemic lupus erythematosus (SLE). In an attempt to explore the effect of tissue destruction on the induction of anti-P autoantibodies, we searched for anti-P autoantibodies by enzyme-linked immunosorbent assay in 201 antinuclear antibody (ANA)-positive individuals, in 10 patients with treated kidney SLE and in 45 acute leukaemia patients undergoing intensive chemotherapy. The autoantibody reactivity was further characterized using one- and two-dimensional immunoblot analysis and immunofluorescence. Anti-P were detected in 5.5% (11/201) of ANA-positive individuals, but not in kidney-affected SLE patients or in patients with leukaemia. Seven of 11 anti-P-positive patients had SLE (3/11), primary Sjögrens's syndrome (1/11) and other autoimmune diseases (3/11). A relation between disease activity and anti-P was suggested by follow-up examinations in one SLE patient, supported by the absence of anti-P autoantibodies in the 10 treated kidney SLE patients. Anti-P autoantibodies were detected by immunoblot in one patient with SLE indicating anti-P2 predominance and in the patient with Sjögrens's

syndrome indicating anti-P1 predominance. Diverging humoral responses in these ANA- and anti-P-positive patients were further illustrated by immunofluorescence, elucidating varying nuclear reactivity and anti-P pattern. The observation of anti-P in individuals with active autoimmune disease, but not in patients with chemotherapy-induced cell damage, suggests that anti-P antibodies are part of a specific disease process, and not elicited as a response to cell destruction *per se*