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Rapid Communication

Simultaneous production of hepatic lesions and circulating antimitochondrial antibody in an experimental animal model of primary biliary cirrhosis

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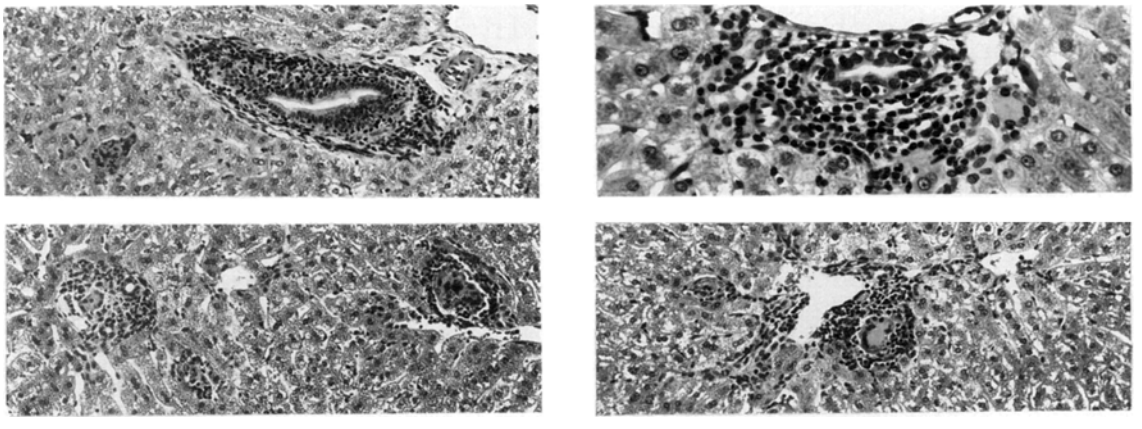
The simultaneous production of hepatic lesions and antimitochondrial antibody (AMA) in an experimental animal model is generally considered to be necessary for the elucidation of the etiopathogenesis of primary biliary cirrhosis (PBC). However, it has been achieved in only a limited number of cases[1,2].

Two female rabbits were sensitized subcutaneously with 0.1mg of pyruvate dehydrogenase (PDH, Sigma Chemical Company, St.Louis, MO) in complete Freund's adjuvant. As controls, two other female rabbits were injected similarly with human IgG. Antigen challenge was repeated six times at intervals of seven days. Seven weeks after primary immunization, the rabbits were exsanguinated and dissected. Sera samples were assayed by the immunoblotting and immunofluorescence methods (Medical Biological Laboratories, Nagoya) for antibodies to mitochondria, and liver specimens were examined histologically.

Two rabbits treated with PDH exhibited AMA titers of 1:160 or more by the immunofluorescence method and reactivity against the 70 KD antigen in PDH complex by the immunoblotting method. Affected interlobular bile duct epithelia, surrounded by a small number of inflammatory cells and granuloma formation consisting of multinucleated giant cells, were shown to be scattered by histopathological studies on their livers (Photos). In the control group, however, no specific changes were found, serologically or histologically. These results suggested that the mitochondrial antigen (PDH) might play an important role in the occurence of PBC.



Key words: PBC, Animal model

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