FAILURE TO DETECT CORONAVIRUS SK ANTIGEN IN MULTIPLE SCLEROSIS
BRAIN TISSUE BY AUTORADIOGRAPHY

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Illnesses such as subacute sclerosing panencephalitis (SSPE) are known to be induced by a virus which is present in a non-infectious state. Measles virus antigen and IgG are present in the brains of SSPE patients as shown by immunofluorescent techniques (1). Autoradiography techniques using I¹²⁵ have been useful in demonstrating viral antigen and IgG in the brain and spinal cords of coronavirus SD infected mice in areas of demyelination when infectious virus cannot be recovered (2). Autoradiography is more sensitive than immunofluorescence in this coronavirus system.

This study utilizes autoradiography in an attempt to detect coronavirus SK antigen in multiple sclerosis (MS) autopsy brain tissue (3). Coronavirus SK was isolated while working with MS autopsy material. Antibody to SK was produced by immunizing guinea pigs by repeated inoculations with an SK infected cell extract.

We studied 17 areas of the brain (14 from demyelinated areas and 3 from normal appearing white matter) from 10 MS patients. Also, we examined white matter autopsy tissue from 6 patients without neurologic disease. We did not detect coronavirus SK antigen in any of the tissue from MS or control patients.

Possible reasons for our inability to detect SK virus antigen in MS tissue include: (1) SK antigen is not present in MS brain tissue; (2) SK antigen may be present in brain areas other than those evaluated since we studied only a very few small areas of the brain; (3) The autoradiography technique may not have the sensitivity to detect latent SK virus in human brain. More

sensitive technology such as coronavirus nucleic acid hybridization studies are needed before drawing final conclusions.

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