

Medical News

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Infectious Hepatitis

2 Varieties Help Explain Recurrences

PEDIATRIC SOCIETIES MEETINGS
Studies of Infectious Hepatitis.
Mumps Vaccine Tested.
Virulence of Herpes Simplex.
Genital Herpes Simplex Transmission.

Medical News—World Wide Report

ATLANTIC CITY, N.J.—Two distinct types of viral hepatitis infection, identified by Dr. Saul Krugman and colleagues at New York University School of Medicine, were described in a report to the annual meeting of the American Pediatric Society here.

Identification of the two types serves to explain the occurrence of second attacks of the disease, said Dr. Krugman, who heads the pediatric department at the medical school.

One of the types is like classical infectious hepatitis in clinical, immunologic, and epidemiologic features, he said, whereas the other closely resembles serum hepatitis, except that it too is infective by the oral route, which had not been considered probable.

The research was conducted at New York University and at the Willowbrook State School on Staten Island, N.Y., where Dr. Krugman and associates have been pursuing hepatitis studies over the past decade.

Hepatitis became endemic at the institution a number of years ago, he pointed out, and has remained so because of the constant admission of many susceptible children. Most children develop infection, which usually follows a benign course, within six to 12 months of admission.

Second attacks of hepatitis have been observed to occur with fair frequency (5.5 per cent of 1,153 children studied), and Dr. Krugman and co-workers postulated that perhaps first and second attacks might be caused by different types of hepatitis virus.

Controlled Infection Study Made

Accordingly, they launched a controlled infection study in which some newly admitted children were inoculated with serum obtained from a Willowbrook patient during a first attack and others were inoculated with serum from the same patient having a second attack.

The study included only children whose parents had given written consent, it was noted, and was conducted in an isolation unit providing special medical and nursing care. The Willowbrook strains used had been shown to be "especially mild."

Eight children were injected intramuscularly with serum from the first pool (designated as MS-1), nine with serum from the second pool (MS-2). Seven of the eight in the first group developed hepatitis after an incubation period of 31 to 53 days. Seven of nine inoculated with MS-2 serum developed hepatitis after an incubation period of 41 to 69 days.

Other differences besides length of incubation period also became apparent to the investigators.

For example, abnormal serum transaminase activity was relatively short—three to 19 days—after MS-1 infection, whereas it was relatively long—35 to 200 days—after MS-2 infection. Thymol turbidity was consistently abnormal after MS-1 infection, but often normal after MS-2 infection.

Notably, MS-1 infection proved to be highly contagious and MS-2 infection much less so. All of six uninoculated subjects in close contact with those in the first group contracted hepatitis. In contrast, there was spread to only two of five presumably susceptible contacts in the other group.

In a further trial, both MS-1 and MS-2 were found to be infective by mouth, but again MS-1 proved more contagious.

Evidence for immunologic differences was obtained when subjects were first inoculated with MS-2 type and subsequently with MS-1, Dr. Krugman continued.

Initial inoculation of MS-2 serum was followed by infectious hepatitis in six of eight subjects, and the pattern of transaminase and thymol turbidity activity was typical of MS-2 infection. However, all eight subjects developed hepatitis when challenged with MS-1 serum, and the pattern was typical of that type of infection.

Dr. Krugman emphasized that it was impossible to distinguish between the two types of hepatitis on clinical grounds alone and that serial laboratory determinations were necessary to do so.

The report was with Dr. Joan P. Giles, also of the N.Y.U. Department of Pediatrics, and Dr. Jack Hammond, director of the Willowbrook State School.



DR. KRUGMAN