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DELTA AGENT (VIRUS-D) INFECTION IS PRESENT IN INDIA

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Acute liver failure due to fulminant hepatitis (FH) and subacute liver failure (SAH) following acute viral hepatitis with bridging necrosis are two serious and common manifestations of viral hepatitis in India^{1,2}. The frequency of both these manifestations is reported to be much higher in India than in other countries. It has been suspected that superinfection or co-infection with delta agent (virus D), virus non-A non-B (NANB) (fecal oral type) or virus A in subjects with hepatitis B virus infection may be responsible for this phenomenon amongst Indian patients. However, our earlier studies did not show any significant co-infection or superinfection with virus A, or delta agent in a smaller number of patients with severe liver injury whose samples were checked by courtesy of Dr.Rizzetto. Recently, we investigated a total of 84 HBsAg positive patients of viral hepatitis for presence of delta antibodies by using delta RIA kit from Abbott's Laboratory U.S.A. The distribution of

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these patients in four clinical types of viral hepatitis, their IgM anti-HBc status and delta antibody positivity rate is presented in Table-I. The results indicate that: (a) Delta infection is present in India; (b) Delta agent is associated both with co-infection (IgM anti-HBc positive cases) and superinfection (IgM anti-HBc negative cases) in subjects with HBV infection. In the present series severe liver injury was specially recorded amongst HBsAg carriers having superinfection with delta agent. To the best of our knowledge, this is the first report of delta infection from India in a significant number of hepatitis patients.

Our earlier investigation was on only 14 cases of hepatitis by courtesy of Dr. Rizzetto. That study did not show the presence of delta antibody or delta antigen. The negative results might have been due to the small sample size. There is no reason to believe that delta infection is a recent phenomenon. The presence of both delta infection and fecal oral NANB infection in Indian patients imposes greater risks for severe liver damage in HBV infected subjects.

REFERENCES

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Delta antibody positivity as related to presence of IgM anti-HBc in different groups of hepatitis B virus infections

Groups	IgM anti-HBc Positive	IgM anti-HBc Negative
Acute viral hepatitis	4/11 (36.4)	0/6 (0.0)
Fulminant hepatitis	1/14 (7.1)	2/9 (22.2)
Subacute hepatitis	1/9 (11.1)	5/18 (27.8)
Chronic active hepatitis	0/7 (0.0)	2/10 (20.0)
Total	6/41 (14.6)	9/43 (20.9)

Values in parentheses show percentages.