Familial clustering of hepatitis B infection has been reported infrequently. We report a family of 27 members, where 13 members were HBsAg-positive. This included 7 of 10 members in one linear family across four generations. Nine subjects who were tested were HBeAg-negative. Of these nine, three subjects had elevated ALT; histology in one of them showed activity index <3. One subject received lamivudine therapy elsewhere; ALT levels returned to normal in two months. [Indian J Gastroenterol 2003;22:22-23]

Key words: Hepatitis B virus, HBsAg

Familial clustering of hepatitis B virus (HBV) infection has been reported. The mode of transmission of the infection in the family may be vertical or horizontal. We report clustering of HBV infection in a family of 27 members.

A total of 27 family members of an asymptomatic HBsAg-positive carrier were screened for HBV infection (ELISA). Thirteen of them (median age 26 years, range 12-65 years; 9 female) were found to be HBsAg-positive; all were asymptomatic. This included 7 of 10 members in one linear family across four generations (Fig). Seven of 13 offsprings of three HBsAg-positive mothers were HBsAg-positive. Two of the HBsAg-positive members had HBeAg-negative parents.

HBeAg was negative in all 9 members tested. We did not test for anti-HBs or anti-Hbc. Liver function tests done in all of them showed 2-fold elevation of ALT in three subjects (all HBeAg-negative). One HBeAg-negative member with elevated ALT had been subjected earlier to liver biopsy, which showed histologic activity index <3. One other member with elevated ALT received lamivudine therapy elsewhere; ALT levels returned to normal in two months. There was no identifiable risk factor except for dental extraction in two HBsAg-positive members. We have recommended HBV vaccination in the unaffected family members.

Familial clustering and aggregation of HBV infection are influenced by both genetic and environmental factors. Familial transmission of HBV infection is classified into six types: generational, horizontal, recessive, intra- and extra-familial, nonfamilial, and undetermined. If the subtype in children is similar to that in the mother, it suggests maternal transmission; on the other hand, if the subtype is similar to the locally dominant one, it could be horizontal transmission.

In the family we report, 13 of 27 family members were HBsAg-positive. Seven of 13 offsprings of three HBsAg-positive mothers were HBsAg-positive. In an earlier study of an Italian-American family, 26 of 78 members were HBsAg-positive. Thirteen of 18 offsprings of six HBsAg-positive mothers were HBsAg-positive. No risk factor was identified in the family we report, except for dental extraction in two cases.

The precise mechanism of horizontal transmission is not known; factors implicated include arthropods; unsterile intramuscular injections; shared shaving i-
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Instruments, bath towels, handkerchiefs or drinking vessels; sharing of chewing gum or partially eaten candies or of dental clearing materials; and biting of fingernails in conjunction with scratching the backs of carriers. HBV-positive cirrhosis and hepatocellular carcinoma have been reported in families with clustering of HBV infection.

In conclusion, 13 of 27 members in a single family were found to be HBSAg-positive; all were asymptomatic. All 9 subjects tested were HBeAg-negative; three had mildly elevated ALT, of whom one had mild inflammation on liver histology. HBV subtyping may be useful to determine the mode of acquisition of the infection. Vaccination against HBV infection is important in such families.

References


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News and Notices

The 1st National Conference on HIV and Hepatitis Co-Infection will be held in Mumbai January 25 and 26, 2003.
For details, contact: Dr J K Maniar, 69/2 Walkeshwar Road, Mumbai 400 006. Phone: (22) 361 1017, Fax: (22) 208 3184; E-mail: jkmniar@vsal.com or Dr Samir R Shah, 303 Doctor House, Peddar Road, Mumbai 400 026. Phone: (22) 385 5591 or 385 6591. E-mail: shahsamir@vsal.com

The 1st CMC Winter Symposium on "Cell Biology and Molecular Medicine" will be held at Christian Medical College, Vellore January 30 and 31, 2003.
For details, contact: welcome@cmcvellore.ac.in or visit http://home.cmcvellore.ac.in for links to the Symposium website

The IXth Surgical Gastroenterology Week will be held in Lucknow February 7-9, 2003.
For details, contact: SGB Week, Department of Surgical Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Raebareli Road, Lucknow 226 014

Phone: (522) 44 0700, 44 0800 Extn 2401, 2417. Fax: (522) 44 0017, 44 0973. E-mail: sgvweek@sgpgi.ac.in

The Mid-term Conference of the Indian Society of Gastroenterology (theme: "GI Emergencies") will be held in Mumbai April 6, 2003.
For details, contact: Dr Philip Abraham, Department of Gastroenterology, KEM Hospital, Mumbai 400 012. Phone: (22) 2415 8722. Fax: (22) 2414 3435 E-mail: igg@vsal.com

The 18th Annual Conference of the Indian Association of Surgical Gastroenterology will be held in Bhopal September 18-21, 2003.
For details, contact: Dr Sahod Varshney, Organizing Secretary, Department of Surgical Gastroenterology and Clinical Nutrition, Bhopal Memorial Hospital and Research Center, Bhopal (MP) 462 038. Phone: (755) 274 2212. Fax: (755) 274 8309 E-mail: lae2003@yahoo.com

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