

Hepatitis B viral infection in South west Saudi Arabia

To the Editor

In a recent issue of Saudi Medical Journal Ayoola et al¹ reported a decline in the prevalence rates for hepatitis B virus (HBV) surface antigen (HBsAg) among Saudis domiciled in the Gizan Region of Saudi Arabia. Certainly, health care authorities would ensure an uninterrupted immunization with HBV vaccines in early infancy and ensure further reduction in the quantum of blood donors being positive for at least one HBV marker.

A comprehensive analysis of apparently healthy Saudi volunteers with 3 serological markers revealed 33 Saudis exclusively positive for antibodies to HBV core antigen (anti-HBc). Aliquots from such patients, if available, should be tested for any low-level carriage of HBV. They might have been infected with the virus a long time ago, but with no development of antibodies to HBsAg, or antibodies level might subsequently have fallen to undetectable levels. They might have experienced recent clearance of HBsAg from the blood after a bout of acute hepatitis, or they might have a chronic HBsAg carrier stage. Alternatively, they might have had a low level carrier state with undetectable levels of HBsAg.² To distinguish these possibilities, it might have been preferable to test them for circulating DNA of HBV. Furthermore, low level carriers could be tested for active viral replication by measuring levels of HBV e antigen (HBeAg) and HBV DNA. These tests might assist in selecting those eligible for therapeutic antiviral intervention with interferon and lamivudine.

During the late 1990's among those aged less than 10 years, the HBsAg prevalence rate was 0.9%.¹ This accumulated figure, from 10 hospitals in the Gizan region appears to be in sharp contrast to the HBsAg prevalence recorded during the 1980s among children less than 12-years-old at one of the hospitals in the region. Among Saudi children seeking treatment for minor ailments at the Gizan General Hospital, the prevalence rate for HBsAg was 11.1%.³ An in depth analysis of the HBsAg prevalence rate among the current Saudi infants and children reporting for minor ailments at the Gizan General Hospital would be desirable. Such an exercise would more than substantiate the reported efficacy of the existing immunization services in the region.¹

Ayoola et al¹ have quoted the 1980's overall HBV exposure rate of 46.5% and HBsAg prevalence of 12.7% among 724 Saudi adults residing in the Gizan Region. The sera from 724 Saudis screened were drawn from cord blood with 72 cases, infants aged less than one year with 41 cases, aged 1-11 years with 173 cases, aged 12-19 years with 112 cases, aged 20-39 years with 251 cases and those aged more than 40 years with 75 cases.⁴ In all probability the 1990s data from Group A comprising of 14883 blood donors has been drawn mainly from males aged 20-40 years.

That would be best compared with the respective figures of the 1980's among males in that age group.

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Reply from the author

We agree with Dr. Arya and Dr. Agarwal that an "uninterrupted" immunization program will ensure sustained reduction in HBV transmission and infection.

"Isolated anti-HBc" positivity is well known and may be found in up to 15% of asymptomatic HBV carriers in some populations. All the speculative possibilities provided by Dr. Arya et al,⁴ as to why anti HBc alone is found in some apparently healthy persons, have been discussed by many authors in several reviews. This aspect was outside the scope of our study. However, we believe that HBV-DNA testing in an epidemiologic survey is unnecessary and certainly not cost beneficial. Also, HBeAg is rarely detected in the absence of detectable HBsAg. The suggestion by Arya et al⁴ that the patients with isolated anti HBc with "low level DNA" should be considered for treatment with Interferon and Lamivudine was rather surprising, although they did not provide a reference on which this was based. We believe that such a consideration has to be kept in the purview of a research protocol. Again, this was not relevant to the scope of our report.

The children <10-year-old with a prevalence rate of 0.9% were asymptomatic healthy children, from the community. We do not see why children with "minor ailments" would have had different HBV epidemiologic characteristics from the studied group. We compared our overall data to the results of many surveys conducted in the 1980s and 1990's that included but not limited to, the report of Arya et al.⁴

The conclusion of our report that HBV infection had declined in the Gizan region, remains valid.

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