

# Hepatitis B<sub>s</sub>-Antigen Among Blood Donors in Ankara\*

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The incidence of HB<sub>s</sub> Ag in the population varies considerably in different parts of the world.<sup>1,2</sup> Previously Pınar and Kanra<sup>3</sup> using the immunodiffusion (ID) technique, reported the incidence of HB<sub>s</sub> Ag as 3 % in Turkey. The present study provides the first information about the incidence of HB<sub>s</sub> Ag among Turkish blood donors, using more sensitive immunoelectroosmophoresis (I E O P) technique.

## *Material and Method*

The HB<sub>s</sub> Ag results of 4100 donors of the blood bank of Hacettepe University Medical Faculty were evaluated. The donors ranged between the ages of 18 to 61 years; the majority (3281) were paid and the remainder (819) were volunteers. HB<sub>s</sub> Ag was routinely tested on the day that the samples were obtained. The (I E O P) test method used was a slight modification of the one devised by Gocke and Howe.<sup>4</sup> Successive donations were eliminated from the study.

## *Results and Discussion*

Out of the 4100 blood donors, 205 or 5 % were found to be positive for HB<sub>s</sub> Ag. Of the 3281 paid donors, 173 or 5.27 % were positive for HB<sub>s</sub> Ag. Among the 819 volunteer donors, 32 or 3.9 % were HB<sub>s</sub> Ag positive.

This difference between the HB<sub>s</sub> Ag incidence in paid and volunteer donors is not as large as might be expected. In developed countries such as the U.S.A. and United Kingdom the incidence of HB<sub>s</sub> Ag among volunteer donors is only about 0.1 %, <sup>5,6</sup> whereas among the paid donors, the incidence is approximately ten times greater.<sup>5,7</sup>

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TABLE I  
HB<sub>s</sub> Ag IN BLOOD DONORS

| Country         | Method | Antigen percentage<br>Unpaid donors | Reference            |
|-----------------|--------|-------------------------------------|----------------------|
| Germany         | ID     | 0.8                                 |                      |
| Japan           | ID     | 1.03                                |                      |
| Kenya           | ID     | 6.0                                 | Maycock (1)          |
| U. K. (Glasgow) | IEOP   | 0.08                                |                      |
| U.S.A. (N. Y.)  | ID     | 0.09                                |                      |
| U.S.A. (N. Y.)  | IEOP   | 0.47                                |                      |
| Israel*         | IEOP   | 1.22                                | Shany and Naggan (2) |
| Turkey (Ankara) | IEOP   | 3.90                                | Kanra and Pirnar     |
| Paid donors     |        |                                     |                      |
| U.S.A. (N. Y.)  | ID     | 1.19                                |                      |
| Japan           | ID     | 2.26                                | Maycock (1)          |
| Turkey (Ankara) | IEOP   | 5.27                                | Kanra and Pirnar     |

The reason for the high HB<sub>s</sub> Ag among our unpaid donors who were usually relatives of the patients may be attributable to their low socio-economic status and generally more crowded living conditions conducive to spread of the antigen.

Those from higher socio-economic levels, instead of giving their own blood, preferred to obtain the blood necessary for their patients from commercial blood donors or military units. In a study of military units in Ankara, Pirnar found<sup>8</sup> the HB<sub>s</sub> Ag incidence to be quite high (3.58 %) even with the (ID) technique.

HB<sub>s</sub> Ag was found to be positive in 7 (3.48 %) out of 201 female donors; whereas 199 (5.1 %) of 3899 males were positive. Out of 3226 donors between the ages 18 and 30 years, 183 (5.67 %) were found to be HB<sub>s</sub> Ag positive; whereas this incidence was 2.51 % over the age of 30 years. In another words, among the total of 205 positive donors, 183 (89 %) were between the ages of 18 and 30 years. This may be explained by the majority of paid donors in these ages. But, in our opinion, it also shows that, people are exposed to HB<sub>s</sub> Ag during early ages of their life.

The HB<sub>s</sub> Ag incidence in this study does not include any increase by parenteral drug addiction because there is no widespread drug problem in Turkey.

*Summary*

The incidence of HB<sub>s</sub> Ag was studied by immunoelectroosmophoresis (I E O P) in 4100 commercial and volunteer blood donors in the Hacettepe University Blood Bank in Ankara. The overall prevalence of HB<sub>s</sub> Ag was 5 %

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