

## Hepatitis B Antigen In Patients with Liver Disease or Cancer in Bangkok, Thailand

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**OBJECTIVE:** To determine the prevalence of hepatitis B antigen (HBsAg) in patients with liver disease or cancer.

**BACKGROUND:** Hepatitis B antigen (HBsAg) provides a marker for epidemiological studies of hepatitis. Since the original discovery of HBsAg, a number of relationships have been described and/or suggested between the presence of the antigen and various disease states other than hepatitis. The SMRL's observations of HBsAg in a blood donor—recipient system have previously been reported in the SEATO Medical Research Laboratory Annual Progress Reports 1971—1972 pp. 140—155 and 1972—1973 pg. 70 and are presently being submitted for publication. During the course of the blood bank study it was possible to correlate HBsAg presence with various disease entities.

**METHODS:** Cases of liver disease, hepatocellular carcinoma, leukemia, and other forms of cancer were tabulated by reviewing recipient card entries under the category referring to diagnosis. The HBsAg status was determined on the basis of the pre—transfusion results, i.e. on the serum sample obtained before the patient received a transfusion. Detection of HBsAg was done by agar—gel immunodiffusion, complement fixation, and immunoelectroosmophoresis.

**PROGRESS:** A total of 2,602 patients were entered into the study. There were 69 cases of non—malignant liver disease, 22 cases of hepatoma, 211 cases of cancer of other types (excluding leukemia) and 26 cases of leukemia. A review of the cases of liver cancer revealed only 11 hepatomas confirmed by histopathology. The other 9 cases were reclassified into their proper categories (Table 1). Six of those discarded were found to be other diseases of the liver, and three were other forms of cancer.

Table 1 shows the revised totals in each category as well as the number of patients with HBsAg present in their serum.

Table 1. HBsAg Prevalence for Various Disease States

Diagnosis	No. Tested	No. Positive	% Positive
All non—malignant liver disease	75	4	5.6
Hepatoma of the liver	11	1	10
Cancers of other types	214	11	5.4
Leukemia	31	3	10.7
Urban population (Huay Khwang)	695	55	8.5
Blood Bank study	2602	175	7.2
<b>Total</b>	<b>3628</b>	<b>249</b>	<b>6.9%</b>

Using a 2XR contingency Table the  $X^2$  value is 3.014 with 4 degrees of freedom. This suggests that none of the rates is sufficiently different from the others, and thus implies that none are more likely to be related to HBsAg than the others.

Eighteen patients in the liver disease group had jaundice and/or hepatitis as a diagnosis; three of these (16%) were positive for the antigen.

Two reservations must be considered. First, all of the persons included in the blood bank study were "selected" because they required a blood transfusion. This selection may or may not cause bias in the results. Second, the radio-immune-assay (RIA) test was not used for antigen detection, and this, a more sensitive test, might have given somewhat different results.

*SUMMARY:* Comparing disease states with hepatitis B antigenemia did not show any specific associations in Bangkok, Thailand. This is in contrast to other studies that have related antigenemia to hepatoma, and/or to chronic liver disease.