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VIRAL HEPATITIS AND THE PRICE OF THE PATIENT CARE

***QURRATULAIN HYDER, **KH. HUSNAIN HAIDER**

*Gastroenterology Unit, Pakistan Institue of Medical Sciences, Islamabad, Pakistan
** Faculty of Pharmacy, University of the Punjab, Lahore, Pakistan

We analysed retrospectively the diagnostic workup of 764 surgical patients for preoperative incidence of Hepatitis-B virus (HBV) and Hepatitis-C virus (HCV) seropositivity. Serology was advised in 321/764 (42%) cases, of which 9 (2.8%) were positive for Hepatitis-B surface antigen (HBsAg) and 34 (10.5%) for anti-HCV. Overall preoperative seropositivity was 43/321 (13.3%). These results have been compared with studies for seroprevalence and awareness about risks of HBV and HCV transmission amongst health workers and medical students. We concluded that the prince of the patient care under present setup is very high.

Keyword : *Viral Hepatitis*

Introduction

Ever since the isolation of HCV, five new hepatotropic viruses have been isolated. They are placed in nAnE group (1,2). HFV is possibly a HBV mutant and is transmitted enterically like HAV and HEV(3). HGV and HGBV-AB-C are similar to HCV in structure, mode of transmission and clinical presentation (2). They pose a new challenge in serodiagnosis and response to interferon therapy. Due to striking structural similarities between HGV and HGBV-C, the two viruses are refferred to as HGV/HGBV-C (4). HBV has predominantly sexual and perinatal transmission (5). The risk is higher when HBsAg is positive. HBsAg and anti-HBS may be simultaneously present in 1/3 of chronic carriers. HCV is mainly acquired after posttransfusion and percutaneous exposure (6,7). Anti-HCV appears in circulation 1-3 months after infection in 80% cases (8). Both HBV and HCV account for >93% of hepatocellular carcinoma (9,10).

Patients and Methods

The study was conducted retrospectively in surgical admissions between May-1996 and January-1997, at PIMS, Islamabad (Pakistan). Patients with pre-existing chronic liver disease were excluded whereas those, scheduled for all minor and major procedures were included in the study. HBsAg was detected with RPHA(reverse passive haemagglutination) and confirmed with enzyme linked immunosorbent assay-2 (ELISA-2) in nonspecific cases. Anti-HCV was determined with ELISA-2 in all the cases.

Results

Seropositivity in the present study means presence of viral markers with or without evidence of necroinflammatory activity in the liver. Single virus serology, i.e., for HBV or HCV had been advised in 114/321 (35.5%) cases with 3/114 (2.6%) found positive for HBV and 7/114 (6.1%) for HCV. Serotesting for both HBV and HCV in 207/321 (64.4%) subjects showed 6/207 (2.8%) HBsAg positive and 27/207 (13%) anti-HCV positive. Thus, 43/321 (13.3%) cases were seropositive for HBV or HCV preoperatively. The incidence of seropositivity in common operations such as thyroidectomy, cholecystectomy, herniorrhaphy and minor procedures was 16/321 (4.98%) with 3 (0.9%) cases being HBsAg positive and 13 (4%) reactive for anti-HCV (Table). Of the 443/764 (57%) indeterminate cases, 104/443 (23.5%) were scheduled for appendicectomy.

Disscussion

Community prevalence of HBV and HCV in Pakistan is 10-15% and 6-7% respectively. Seroprevalence of HCV is 90% in thalasaemics, 60% in haemodialysis patients and 80% in coronary bypass graft recipients in the local population (8,11). International studies have shown that 1% of all the hospital admissions are HBsAg positive and 90% of these are never detected (12) . Transmission is predominantly

** Correspondence

Table. Serology in common operations (321 cases)

Seropositivity	Thyroiectomy	Cholecystectomy	Hernioectomy	Minor operations
HBV	0	0	1	2
HCV	5	3	3	2
Total	5	3	4	4

unidirectional i.e., from patient to the staff. Approximately 1% health workers acquire HBsAg and 15% become seropositive for >1 markers of HBV (12,13). Screening of personnel from a hospital at Karachi (Pakistan) revealed 20% sanitary workers, 17% dentists, 7% doctors and 5% paramedics HBsAg positive, whereas 31% doctors and 35% paramedics had >1 markers of HBV in circulation (14). Seroprevalence of HCV in local health workers is not known nor is the data available about hospital admissions in Pakistan. We found out from our study that HCV (10%) is about 4 times more prevalent than HBV (2.8%) in the surgical patients. Moreover, incidence of HBV (2.8%) is 3 times higher in our admissions. Seropositivity of HCV (10.5%) is marginally greater than community prevalence (6-7%). It is possibly due to posttransfusion and percutaneous exposure of these subjects during outdoor evaluation. The risk of intraoperative transmission of HCV, contrary to the previous belief, is proportionately greater than HBV. We, therefore recommend serotesting for HBV and HCV in all invasive procedures. Considering very high seropositivity, i.e., 16/321 (4.98%) amongst common operations, the number of indeterminate cases, 443/764 (57.9%) is significant as 104/443 (23.5%) of these were scheduled for appendicectomy. However, cost of serotesting, timing of operation and urgency of clinical situation may be the underlying factors in this set of patients. According to a recently concluded study involving 525 medical students at Karachi, only 12% disposed of the used needles in special containers; 13% preclinical and 25% clinical students had full vaccination against HBV and post vaccination follow up was hardly reported (15). Serotesting of medical and dental students as pre-requisite for admission is not mandatory in Pakistan. There is no clearly defined policy about disposal of seropositive health workers and medical students. Only 5% of the blood transfusions are properly screened for these viruses throughout Pakistan. Serotesting of 321/764 (42%) cases indicates less than adequate awareness at our Institute about risk of intraoperative transmission. Furthermore, correlation of these results with aforementioned studies about hospital personnel, who have acquired HBV at work and about lack of knowledge amongst our medical students reflects an alarming situation in our clinical set up. We conclude that the price of patient care is very high under the present circumstances.

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