Theme 3: Recent advances in the study of STDs due to viral and other agents

Follow up of patients with hepatitis B surface antigen

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SUMMARY One hundred and five patients attending clinics for sexually transmitted diseases were found to carry hepatitis B surface antigen (HBsAg). Of these, 87 patients had liver function tests performed of which 44 gave abnormal results. Fifteen patients underwent liver biopsy, which showed chronic hepatitis in eight cases.

Introduction

Much work has been done on the epidemiology of hepatitis B (Zuckerman, 1972), including its probable sexual transmission (Zuckerman, 1977). The medical problems after the hepatitis B surface antigen (HBsAg) carrier has been identified, however, are considerable (*British Medical Journal*, 1974; Woolf *et al.*, 1974). As there is a growing desire among genitourinary physicians to screen for HBsAg carriers, it was decided to determine the incidence of possible liver disease among patients attending sexually transmitted disease (STD) clinics. In the United Kingdom several groups of patients are at greater risk of being carriers of HBsAg (Cossart, 1977); these groups formed the basis for the study.

Material and methods

Patients attending the STD clinics of St Thomas's, St Bartholomew's, and the Prince of Wales's Hospitals, London, were screened for HBsAg, when blood for syphilis antibodies was taken, if they fell within the following groups with a high risk of HBsAg carriage:

- (1) Homosexuals;
- (2) Prostitutes;
- (3) Drug abusers;

- (4) Patients with previous liver disease;
- (5) Tattooed patients;
- (6) Patients born outside the United Kingdom. (This group will include some patients not from particularly high risk areas, but the term is used for ease of interpretation in a busy clinic.)

HBsAg was determined by solid-phase radio-immuno-assay (Abbot Laboratories). HBsAg-positive patients who returned for follow up were questioned closely on further possible factors related to HBsAg carriage, and these are shown in Table 1. Some patients, therefore, had more than one risk factor (Table 2).

Table 1 Other risk factors for HBsAg

Risk factors	Heterosexuals (74)	Homosexuals (31)
Previous jaundice	5	2
Jaundice at presentation	4	3
Tattooed	1	1
Transfusion/injections	2	2
Pierced ears		1
Nurse		1
Drug abuse	5	1
Born outside UK	65	10

Table 2 Number of risk factors for HBsAg per patient

No. of risk factors	Heterosexuals	Homosexuals
1	66 (98.2%)	18 (58.1%)
2	8	9
3		3
4		1
Total	74	31

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Results

One hundred and five patients who carried HBsAg were identified—that is, 4% of those screened, although the incidence varied according to the hospital the patients attended. Thirty-one male homosexuals were HBsAg-positive, as were 74 heterosexuals—55 male and 19 female; their racial origin is shown in Table 3. Twenty-four (77%) homosexuals came from Europe, including the United Kingdom, and one each from the West Indies, Mauritius, Singapore, United States, India, Australia, and South Africa. Of the heterosexuals, however, only 14 (19%) came from Europe, while 23 (31%) came from the West Indies and 25 (34%) from West Africa (Table 4).

All patients with HBsAg who returned for follow up had liver function tests carried out; these included values for serum bilirubin, protein, albumen, alkaline phosphatase, and aspartate aminotransferase (Table 5). Normal and abnormal results of liver function tests relate to the values set at each of the three hospitals where patients were seen. In only 40% of both homosexuals and heterosexuals was the abnormal value at or above twice the upper limit of the normal value, and many values were only marginally raised. In only two patients was the aspartate aminotransferase not raised when other tests gave abnormal results.

Those patients with abnormal results were referred to a gastroenterologist for further evaluation. Fifteen patients underwent liver biopsy. The results of these biopsies in seven heterosexual patients and eight homosexuals are shown in Table 6. Three homosexual and two heterosexual patients had chronic aggressive hepatitis with

cirrhosis, while two homosexuals and one heterosexual had chronic persistent hepatitis.

Table 5 Liver function test results

	Total no. tested	Normal		Abnormal	
		No.	%	No.	%
Homosexuals	27	7	25.9	20	74.1
Heterosexuals	60	36	60.0	24	40.0

Table 6 Results of liver biopsies in 15 HBsAg carriers

Results of liver biopsy	Heterosexuals	Homosexuals
Normal	2	1
Non-specific inflammation	1	1
Acute hepatitis	1	1
Chronic persistent hepatitis	1	2
Chronic aggressive hepatitis with cirrhosis	2	3
Total	7	8

Discussion

It is clear that isolation of HBsAg from the sera of patients attending STD clinics is only the first step in their investigation. One-third of the patients undergoing liver biopsy had chronic aggressive hepatitis with cirrhosis sufficiently severe to be treated immediately with corticosteroids, while 20% of the patients had chronic persistent hepatitis. All 15 patients who underwent biopsy were completely symptom-free and not abusing drugs or alcohol.

Although homosexuals are at recurrent risk of acquiring HBsAg, and should be regularly screened if no facilities for determining their antibody status are available, this study shows that patients attending STD clinics from high risk areas abroad should also be screened and followed up. Both groups present dangers to laboratory and technical staff and both may have asymptomatic liver disease, which may require urgent treatment and certainly needs advice and observation.

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Table 3 Racial origin of HBsAg-positive patients

Racial groups	Heterosexuals		Homosexuals	
	No.	%	No.	%
Caucasian	16	21.6	28	90.3
Negroid	50	67.6	2	6.5
Mongoloid	3	4.0	1	3.2
Arab	4	5.4		
Asian	1	1.4		
Total	74	100.0	31	100.0

Table 4 Areas of origin (heterosexuals)

Area of origin	No.
UK/Europe	14
West Indies	23
West Africa	25
North Africa	4
Far East	3
South America	3
Kenya	1
Pakistan	1
Total	74