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Guidelines for Health Promotion

Produced by the Committee on Health Promotion

GUIDELINES FOR HEALTH PROMOTION NUMBER 6

HEPATITIS B (SERUM HEPATITIS)

Causal Agent: Hepatitis virus type B.

Clinical Features: Onset is usually insidious, with anorexia, nausea, vomiting, abdominal discomfort and arthralgia, often but not always progressing to jaundice. Severity ranges from clinically inapparent cases, detectable only by liver function and other tests, to fulminating fatal cases. More than 90% of acute cases resolve completely.

Identification: Hepatitis B surface antigen (HBsAg, Australia antigen) appears in the plasma during the incubation period. Laboratory tests are available to detect this antigen and also, at later stages of the illness, hepatitis B surface antibody, (Anti-HBs) hepatitis Be antigen (HBeAg) and hepatitis Be antibody (Anti-HBe). The presence of e antigen correlates with increased infectivity. The absence of e antibody in the presence of the surface antigen also suggests greater infectivity. The presence of surface antibody denotes recovery. Carrier rate 0.1% of the UK population.

Notifiable: Notifiable as infective jaundice to the Community Physician responsible for control of communicable disease.

Incubation Period: Usually between 40 and 160 days.

Period of Infectivity: Latter part of the incubation period, through the clinical phase of the illness, and during carrier state (see reference to e antigen above) which can persist for many years in some cases.

Mode of Transmission: By blood or blood products (or occasionally other body fluids eg saliva, semen) from an infected person being introduced into the blood stream of the recipient. Contaminated syringes, needles and other invasive equipment can be vehicles of spread. This transmission may occur through drug abuse, tattooing, acupuncture and

ear piercing as well as medical and dental treatment. Health Service staff whose work brings them into direct contact with patients' body fluids and biological specimens are potentially at risk, and viral hepatitis is a prescribed occupational disease. Infected blood or saliva may enter the body through skin wounds or through the eye or the mouth. Sexual activity (especially male homosexual) is a route of spread.

CONTROL MEASURES

1 General Preventive Measures

- 1.1 Screening of blood donations, as is done in the UK.
- 1.2 Use of pre-sterilised disposable syringes and needles and safe disposal after use (in a "sharps box").
- 1.3 Efficient means of sterilising non-disposable invasive equipment, preferably in CSSD.
- 1.4 Training of all persons who handle potentially infected patients or materials in the correct procedures to minimise the risk of spread of infection.
- 1.5 Monitoring of establishments undertaking tattooing, etc. The Local Government (Miscellaneous Provisions) Act 1982 (an adoptive Act) empowers local authorities to require registration of such establishments.

2 Preventive Measures in Hospitals

- 2.1 Strict precautions should be observed in order to minimise opportunities for inoculation injuries or for a patient's blood to come into contact with the skin or mucosa of staff or other persons.
- 2.2 Each District should have an agreed policy specifying high risk groups who should be screened (during normal working hours) as soon as possible after admission to hospital. This list might include:

- drug abusers
- homosexuals
- immigrants or visitors from SE Asia, the Indian subcontinent and Africa
- patients with a history of multiple transfusions of blood or blood products (eg haemophiliacs)
- patients previously resident in hospitals or other large institutions for the mentally handicapped
- possibly also patients with tattoos or who are known to have acupuncture treatment

Blood from these patients should be collected by staff experienced in venepuncture.

- 2.3 Staff who are found to be carriers of HBsAg should not work in renal dialysis units, but staff who work in other departments should not be barred from work except in the very rare situation where an individual has been shown to be responsible for spreading infection with hepatitis B virus. Routine screening of staff is not recommended. A member of staff found to be a carrier of HBsAg should receive advice on how to avoid transmitting the infection. Official guidance is contained in CMO(81)11 (SHHD/CAMO(82)1).

3 Precautions for Known or Suspect Cases or Carriers

- 3.1 The Infection Control Officer and relevant ward staff should be informed, as should the staff in theatres or other departments to which the patient may be taken.
- 3.2 The number of staff in contact with the patient should be kept to the minimum.
- 3.3 Gloves and plastic aprons should be worn when dealing with blood, secretions, excreta and spillages of potentially infected material. Goggles should be available for use when necessary.
- 3.4 Tests on blood and body fluids should be kept to the minimum. Screw-top containers should be used, avoiding spillage on the outside. The specimen container and the request card should be labelled in accordance with agreed local policy and placed in a suitable plastic bag for transporting to the laboratory where it should be handed directly to a member of the staff.
- 3.5 Special arrangements should be made with the porters and with departments such as CSSD and the laundry, for the transporting and reception of high risk materials.
- 3.6 "Sharps" (needles, etc) and other clinical waste should be disposed of in accordance with the code of guidance issued under cover of HN(82)22.
- 3.7 Instruments should be sent for autoclaving in accordance with locally arranged procedures, which should specify suitable containers, in which the instruments can be safely transported.
- 3.8 Linen should be sent to the laundry in accordance with advice given in HM(71)49 (SHM45/1971). Bags should be labelled in accordance with agreed local policy.
- 3.9 Hypochlorite 1% should be used for mopping up spillages and for cleaning surfaces after discharge of the patient. Gloves must be worn.
- 3.10 If the patient has to be taken to theatre, staff should be kept to the minimum and the case should be either the only one or the last one on the list.

Great care should be exercised with sharps and blood spillage. Use disposable linen when possible.

4 Renal Dialysis Advice

Advice concerning the special requirements in renal dialysis units is contained in the Rosenheim Report, dated March 1972 (HM(73)55 refers).

5 Vaccination

The vaccine consists of 1 ml vials of sterile suspension containing 20 mcg of HBsAg adsorbed onto alum. Three doses are given intramuscularly at day 0, 1 month and 6 months. The immune response is slow, but at 9 months more than 90% of those aged less than 30 years produce a good response. Those over the age of 40, drug addicts and patients with uraemia or immunodeficiency may respond poorly. There is no evidence of any risk of contracting AIDS from the vaccine.

Guidance on the use of hepatitis B vaccine was issued in CMO(82)13 (SHHD/CAMO(82)12) and in the DHSS Memorandum "Immunisation against Infectious Disease" April 1984, and DHSS Memorandum "Vaccination and Immunisation Policy for NHS Staff" February 1984. Priority should be given to those groups of staff who are exposed to a high degree of risk in situations in which it is difficult to practice the preventive measures which have been advised, eg staff working in drug dependency units.

6 Treatment of Accidents

There is a risk of spreading hepatitis B in any incident in which there is direct contact between the blood or saliva of an infected or potentially infected person and the blood of another person. The immediate treatment is to wash the wound or irrigate the eye or mouth with saline or tap water. Where an adequate supply of hepatitis B specific immunoglobulin is available, a dose of specific immunoglobulin should be given, preferably within 48 hours or at the latest within ten days. A further dose may be indicated four weeks later depending upon the 'e' status of the inoculated material and the immune status of the injured person. Where the supply of specific immunoglobulin is limited, the antigen status of the patient should be established before giving the first dose.

7 Epidemiological Investigation

The Community Physician responsible for infectious disease control should monitor the statutory notifications he receives, together with information from other sources, in order to discover links between cases and identify sources of infection and means of transmission. (Identification of subtypes of HBsAg can on occasions prove helpful in establishing the epidemiology of outbreaks.) Appropriate action should then be taken to prevent further spread of the infection.