Hepatitis B vaccination in public service - current protocol

Background

Hepatitis B vaccination is currently provided to the following people in the public service - (a) newborns and pre-school children (b) health care workers in public institutions (Department of Health and Hospital Authority) and (c) selected patient group.

This paper summarises the existing protocol for administering hepatitis B vaccine to these target groups.

Newborns and children

Since 15 November 1988, all newborns have been offered hepatitis B vaccination. In July 1992, an one-off exercise was launched to cover all pre-school children born between 1 January 1986 and 14 November 1988. The current practice is that children (up to the age of 8) who are not vaccinated can receive the vaccination at the Maternal & Child Health Centre (MCHC) or Viral Hepatitis Preventive Service (VHPS) of the Department of Health (Table 1). No pre-vaccination screening for hepatitis B markers is usually required for newborns and children. Half of the recommended adult dose (see below) is given intramuscularly, over anterolateral aspect of thigh for newborn and small children and over deltoid for older children*. Baby born to HBsAg positive mother should also receive 0.5ml hepatitis B irnmunoglobulin (HBIg) at birth. Three doses of hepatitis B vaccine are given at a schedule of 0,1,3-5 month. They can receive the vaccination at the MCHC tier birth (Table I). Blood tests for antibody response are generally not required.

Health care workers in public sector

Pre-vaccination screening for HBsAg and anti-HBs is recommended to assess need for vaccination. People negative for both HBV markers are candidates for vaccination (see Table 1 for venue of vaccination).

Hepatitis B vaccine is given intramuscularly over deltoid at 0,1 and 6 month. The recommended dose for adult e.g. 10ug of B-hepavac II (H-B-VAX II) or 20ug of Engerix-B is to be used. Because of the increased risk of occupational exposure to blood and body fluids, blood for HBV markers should be checked l-4 months after the primary course to assess the response (Table 2). An anti-HBs level of ~lOmIlJ/m (positive) is considered an adequate response and thus protective against HBV infection. Levels of less than 10mIU/ml indicates a suboptimal response and boostering is recommended. Booster vaccination consists of 3 doses to be given at 0,1,2 month. People who have anti-HBs 0 or <10mIU/ml after the second course are declared non-responders and hyporesponders respectively. They should receive post-exposure prophylaxis in case of possible exposure to hepatitis B infection in future.

Selected patien t groups

With effect from 1 Jan 1992, hepatitis B vaccination has been made available to patients with haemophilia and thalassaemia major patients requiring regular blood transfusion', by an appointment system. They can be referred to VHPS. Pre-vaccination screening and post-vaccination test are required as for health care workers.

Booster

Boosterin gis generally not required for those who have received a full course of vaccination an demonstrated adequate response.

Half adult dose is recommended for anyone up to the age of 16, if vaccination is required.

Table I Current hepatitis B vaccination protocol

Recipient	Vaccination schedule	Venue
Newborn	HB vaccine at 0,1,3-5 month after birth, plus 0.5 ml HBIg IMI for babies born to HBsAg +ve mothers	1st dose at place of delivery, subsequent doses at nearby MCHC?
Children < 6 years old 6-8 years old	HB vaccine at 0,1,3-5 month	 MCHC VHPS
Health care workers* New recruits via MBB@ Existing staff of Department of Health Existing staff of hospitals	HB vaccine at 0, 1,6 month	 VHPS VHPS individual hospital
Thalassaemia major or haemophiha patients	HB vaccine at 0,1,6 month	VHPS

* Health care workers are defined in a list available from the VHPS
@Medical Examination Board, Hong Kong Government
%Maternal & Child Health Centres, Department of Health
Tin1 Hepatitis Preventive Service, Department of Health

Table 2 Interpretation of post-vaccination results

HBsAg	anti-HBs	anti-HBc	Implication/Action
-ve	+ve (≥ 10mIU/ml)	not done	responder
-ve	wk +ve (< 10mIU/ml)	-ve	hyporesponder, consider booster vaccination
-ve	wk +ve (< 10mIU/ml)	+ve	previous exposure to hepatitis B virus
-ve	-ve	-ve	non-responder, consider booster vaccination
-ve	-ve	+ve	previous cqosure to hepatitis B virus
+ve	-ve	+ve	hepatitis B carrier

References

1. Preventing hepatitis B transmission in health care setting - recommended guidelines. ***Scientific Working Group on Viral Hepatitis Prevention, Department of Health, May 1995.***
2. Procedures for management of needlestick injury or mucosal contact with blood or body fluids : recommended guidelines for hepatitis B, C and HIV prevention - ***Scientific Working Group on AIDS and Scientific Working Group on Viral Hepatitis*** Preven t ***ion***

Scicntitic Working Group on Viral Hepatitis Prevention
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