SUMMARY OF PRODUCT CHARACTERISTICS

1. Name of the Medical Product

Hepa-B
Suspension for injection in vial

Hepatitis B vaccine (rDNA)

Available in 1 ml & 0.5 ml strengths.

2. Qualitative and quantitative composition

Hepa-B for pediatric: Each 0.5-ml dose contains 10 mcg of hepatitis B surface antigen adsorbed on 0.25 mg aluminum as aluminum hydroxide.

Hepa-B for adult: Each 1 ml adult dose contains 20 mcg of hepatitis B surface antigen adsorbed on 0.5 mg aluminum as aluminum hydroxide.

3. Pharmaceutical form

Sterile Suspension for injection.

4. Clinical Particulars

4.1 Therapeutic indications

The vaccine is indicated for the active immunization against infection caused by all known subtypes of Hepatitis B virus. As Hepatitis D (caused by the delta virus) does not occur in the absence of Hepatitis B infection, it can be expected that Hepatitis D will also be prevented by Hepatitis B vaccination.

4.2 Posology and method of administration

4.2.1 Posology

Neonates and children up to 19 years of age: The recommended dose of Hepatitis B vaccine (rDNA) is 10 mcg of antigen protein in 0.5 ml.

Adults 19 years of age and older: The recommended dose of Hepatitis B vaccine (rDNA) is 20 mcg of antigen in 1 ml.

Two primary immunization schedules can be recommended:

A 0, 1, 6 months schedule which gives optimal protection at month 7 and produces high antibody concentrations.

An accelerated schedule, with immunization at 0, 1 and 2 months, which will confer protection more quickly and is expected to provide better patient compliance. With this schedule, a fourth dose should be administered at 12 months to assure long term protection as antibody concentrations after the third dose are lower than those obtained

after the 0,1, 6 months schedule. In infants, this schedule will allow for simultaneous administration of hepatitis B with other childhood vaccines.

Patients with renal insufficiency including patients undergoing hemodialysis, up to and including 15 years of age:

Patients with renal insufficiency, including patients undergoing hemodialysis, have a reduced immune response to hepatitis B vaccines. Either the 0, 1, 2 and 12 months or the 0, 1, 6 months schedule (10 µg) can be used. Based on adult experience, vaccination with a higher dosage of antigen may improve the immune response. Consideration should be given to serological testing following vaccination. Additional doses of vaccine may be needed to ensure a protective anti-HBs level ≥ 10 IU/l.

Neonates born of mothers who are HBV carriers:

The immunization with these neonates should start at birth, and two immunization schedules have been followed. Either the 0, 1, 2 and 12 months or the 0, 1 and 6 months schedule can be used; however, the former schedule provides a more rapid immune response. Hepatitis B immune globulins (HBIg) should be given simultaneously with the first dose of vaccine at a separate injection site as this may increase the protective efficacy.

Subjects from 11 years up to and including 15 years of age:

The 20 µg/1 ml vaccine may be administered in subjects from 11 years up to and including 15 years of age according to a 0, 6 months schedule. However, in this case, protection against hepatitis B infections may not be obtained until after the second dose. Therefore, this schedule should be used only when there is a low risk of hepatitis B infection during the vaccination course and when completion of the two-dose vaccination course can be assured. If both conditions cannot be assured (for instance patients undergoing haemodialysis, travellers to endemic regions and close contacts of infected subjects), the three dose or the accelerated schedule of the 10 µg/0.5 ml vaccine should be used.

Subjects 16 years of age and above:

Two primary immunisation schedules can be recommended:

A 0, 1, 6 months schedule which gives optimal protection at month 7 and produces high antibody concentrations.

An accelerated schedule, with immunisation at 0, 1 and 2 months, which will confer protection more quickly and is expected to provide better patient compliance. With this schedule, a fourth dose should be administered at 12 months to assure long term protection as antibody concentrations after the third dose are lower than those obtained with the 0, 1, 6 months schedule.

Subjects 18 years of age and above:

In exceptional circumstances in adults, where an even more rapid induction of protection is required, e.g. persons travelling to areas of high endemicity and who commence a course of vaccination against hepatitis B within one month prior to departure, a schedule of three intramuscular injections given at 0, 7 and 21 days may be used. When this schedule is applied, a fourth dose is recommended 12 months after the first dose.

Patients with renal insufficiency including patients undergoing haemodialysis, 16 years of age and above:

The primary immunization schedule for patients, with renal insufficiency including patients undergoing haemodialysis is four double doses (2 x 20 µg) at elected date, 1 month, 2 months and 6 months from the date of the first dose. The immunization schedule should be adapted in order to ensure that the anti-HBs antibody concentrations remain equal to or higher than the accepted protective level of 10 IU/l.

Known or presumed exposure to HBV:

In circumstances where exposure to HBV has recently occurred (eg needlestick with contaminated needle) the first dose of Hepatitis B vaccine can be administered simultaneously with HBIg, which, however, must be given at a separate injection site. The 0, 1, 2-12 months immunization schedule should be advised.

Booster dose

Current data do not support the need for booster vaccination among immunocompetent subjects who have responded to a full primary vaccination course.

However, in immunocompromised subjects (eg subjects with chronic renal failure, hemodialysis patients, HIV positive subjects), boosters should be administered to maintain anti-HBs antibody concentrations equal or higher than the accepted protective level of 10 IU/l. For these immunocompromised subjects, post-vaccination testing every 6-12 months is advised.

4.2.2 Method of administration

Hepatitis B vaccine should be injected intramuscularly in the deltoid region in adults and children or in the anterolateral thigh in neonates, infants and young children.

The vaccine should be shaken well before use to obtain a homogenous turbid white suspension. Do not shake vigorously. The vaccine should be inspected visually for particulate matter and discoloration prior to administration. If either of these conditions exists, the vaccine should not be administered. The vaccine must be used as supplied.

4.3 Contraindication

The vaccine should not be administered to subjects with known hypersensitivity to the active substances or to any of the excipients, or to subjects having shown signs of hypersensitivity after previous Hepatitis B vaccine administration.

As with other vaccines, the administration of Hepatitis B vaccine should be postponed in subjects suffering from acute severe febrile illness. The presence of a minor infection, however, is not a contra-indication for immunisation.

4.4 Special warnings and precautions for use

Because of the long incubation period of Hepatitis B, it is possible for unrecognized infection to be present at the time of immunization. The vaccine may not prevent hepatitis B infection in such cases.

The vaccine will not prevent infection caused by other pathogens known to infect the liver such as hepatitis A, hepatitis C and hepatitis E viruses.

As with any vaccine, a protective immune response may not be elicited in all vaccinees

A number of factors have been observed to reduce the immune response to hepatitis B vaccines. These factors include older age, male gender, obesity, smoking, route of administration and some chronic underlying diseases. Consideration should be given to serological testing of those subjects who may be at risk of not achieving seroprotection following a complete course of Hepatitis B vaccine. Additional doses may need to be considered for persons who do not respond or have a sub-optimal response to a course of vaccinations.

Patients with chronic liver disease or with HIV infection or hepatitis C carriers should not be precluded from vaccination against hepatitis B. The vaccine could be advised since HBV infection can be severe in these patients: the HB vaccination should thus be considered on a case by case basis by the physician. In HIV infected patients, as also in patients with renal insufficiency including patients undergoing haemodialysis and persons with an impaired immune system, adequate anti-HBs antibody concentrations may not be obtained after the primary immunisation course and such patients may therefore require administration of additional doses of vaccine.

The vaccine should not be administered in the buttock or intradermally since this may result in a lower immune response.

The vaccine should under no circumstances be administered intravascularly.

As with all injectable vaccines, appropriate medical treatment should always be readily available in case of rare anaphylactic reactions following the administration of the vaccine.

The potential risk of apnoea and the need for respiratory monitoring for 48-72h should be considered when administering the primary immunization series to very premature infants born < 28 weeks of gestation) and particularly for those with a previous history of respiratory immaturity. As the benefit of vaccination is high in this group of infants, vaccination should not be withheld or delayed.

4.5 Interaction with other medical products and forms of interaction

The simultaneous administration of Hepatitis B vaccine and a standard dose of HBIg does not result in lower anti-HBs antibody concentrations if they are administered at separate injection sites.

Hepatitis B vaccine can be given at the same time with other vaccine as diphtheria, tetanus, pertussis (DTP), polio (OPV), measles, mumps and rubella (MMR), Haemophilus influenzae b, Hepatitis A, Human Papillomavirus (HPV) vaccine and Meningococcal vaccines at separate sites and with separate syringes.

Different injectable vaccines should always be administered at different injection sites.

4.6 Fertility,Pregnancy and lactation

Pregnancy

The effect of the HBsAg on foetal development has not been assessed.

However, as with all inactivated viral vaccines one does not expect harm for the foetus. Hepatitis B vaccine should be used during pregnancy only when clearly needed, and the possible advantages outweigh the possible risks for the foetus.

Breast-feeding

The effect on breastfed infants of the administration of Hepatitis B vaccine to their mothers has not been evaluated in clinical studies, as information concerning the excretion into the breast milk is not available.

No contraindication has been established.

Fertility

No fertility data are available.

4.7 Effects on ability to drive and use machines

The Hepatitis B vaccine has no or negligible influence on the ability to drive and use machines

4.8 Undesirable effects

Hepatitis B vaccine is generally well tolerated. Most recipients of Hepatitis B vaccine experience some reactions upon vaccination. These are generally moderate and short. They mainly consist of local reactions at the injection site (erythema, induration and tenderness). Systemic reactions (malaise, headache, diarrhea, vomiting, mylagia and elevated temperature) are reported less commonly. In very rare cases, allergic type reactions (pruritus, rash, urticaria) may be observed.

4.9 Overdose

Not applicable

5. Pharmacological properties

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Vaccine, Hepatitis B vaccine

Mechanism of action

Hepatitis B vaccine induces specific humoral antibodies against HBsAg (anti-HBs antibodies). Anti-HBs antibody concentrations > 10 IU/l correlate with protection to HBV infection.

5.2 Pharmacokinetic properties

Not applicable to vaccine products.

5.3 Preclinical safety data

The preclinical safety data satisfy the requirements of the WHO.

6. Pharmaceutical Particulars

6.1 List of excipients

Aluminium Hydroxide ….....q.s.
Sodium dihydrogen Phosphate .....q.s.
Disodium Hydrogen Phosphate .....….q.s.
Diluent: solution of sodium chloride .....q.s.
Thiomersal ……qs
Water for injections …….q.s.

6.2 Incompatibilities

In the absence of compatibility studies, this medicinal product must not be mixed with other medicinal products.

6.3 Shelf life

2 years

6.4 Special precautions for storage

- Keep out of the reach and sight of children
- Store and transport at +2 ^{O}C to +8 ^{O}C
- Protect from light

6.5 Nature and contents of container

- Colorless glass vial with grey Bromobutyl rubber stoppers and aluminium overcaps fitted with dark grey flip-off tops containing 1 ml of suspension
- Colorless glass vial with grey Bromobutyl rubber stoppers and aluminium overcaps fitted with transparent flip-off tops containing 0.5 ml of suspension.

6.6 Special precautions for disposal and other handling

- The vaccine should never be administered intravenously.
- The vaccine should be inspected visually for any foreign particulate matter and/or variation of physical aspect prior to administration.
- Before use, the vaccine should be well shaken to obtain a slightly opaque white suspension.
- Discard the vaccine if the content appears otherwise.
- Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

7. Marketing authorisation holder

Incepta VaccineLtd.

Bara Rangamatia

Zirabo, Ashulia

Savar, Dhaka

Bangladesh

8. Drug authorization number(s)

Hepa-B 1 ml (Adult) - 363-03-069

Hepa-B 0.5 ml (Pediatric) - 363-04-069

9. Date of first authorization /renewal of the authorization

February 2011

10. Date of revision of the text

May 2021