



New Drug Focus

Pentaxim® injection – A new 5-in-1 combination vaccine

Approved indication

This combination vaccine is indicated for active immunisation of infants from six weeks of age against diphtheria, tetanus, pertussis, poliomyelitis and invasive infections caused by *Haemophilus influenzae* type b (such as meningitis, septicaemia, cellulitis, arthritis, epiglottitis, pneumopathy and osteomyelitis). The vaccine contains acellular pertussis and inactivated polio vaccine, both of which have been found to be effective and have a better side effect profile.

It is also indicated for booster in children who have previously received a primary vaccination with this vaccine or a diphtheria-tetanus-(whole cell or acellular) pertussis-poliomyelitis vaccine, whether mixed or not with the freeze-dried conjugate *Haemophilus influenzae* type b vaccine.

Mode of action

- *Immune response after primary vaccination*

After the three-dose primary vaccination series at 6, 10 and 14 weeks of age, the vaccine provides high immunogenicity for each vaccine antigen. After the third dose of the vaccine, protective antibody levels were observed in 98.7% of subjects.

- *Immune response after booster injection*

A sustained immune response is dependent upon the administration of a booster dose of vaccine at 15 to 18 months of

age. Immunogenicity studies in toddlers in the second year of life who had received the 3-dose primary vaccination series with Pentaxim® show high antibody responses to all components of the vaccine following the booster dose.

Dosage

Pentaxim® complies with the Expanded Programme on Immunisation (EPI) primary vaccination series at 6, 10 and 14 weeks of age. A fourth dose or booster should be given in the second year of life (at 15 to 18 months).

Pentaxim® must be administered intramuscularly. The recommended injection site is the antero-lateral aspect of the upper thigh in infants and toddlers.

Precautions

- *General*

Vaccination should be postponed in the case of fever or acute illness.

The vaccine is contraindicated in those with a known hypersensitivity to any component of the vaccine or to pertussis vaccines (acellular or whole cell) and in patients with an evolving encephalopathy or an encephalopathy within seven days of administration of a previous dose of any vaccine containing pertussis antigens.

The immunogenicity of the vaccine may be reduced by immunosuppressive treatment or immunodeficiency. Nonetheless, the vaccination of those with chronic immunodeficiency such as HIV infection, is recommended even if the antibody response may be limited.

Major adverse effects

In infants who received Pentaxim® as a primary series, the most frequently reported adverse reactions include irritability, mild fever and local reactions at the injection site such as redness or induration. These symptoms usually occur within 48 hours of vaccination but resolve spontaneously without requiring specific treatment.

Drug interactions

Except in the case of immunosuppressive therapy, no significant clinical interactions with other treatments or biological products has been documented. Pentaxim® may be administered simultaneously with the measles-mumps-rubella vaccine at two separate injection sites.

Cost: List Price

Pentaxim® injection (sanofi pasteur): R215,46 incl VAT or quote R189 excl VAT.

Conclusion

Pentaxim® injection is an effective vaccine for primary vaccination in children. It reduces the number of injections that may be required for the primary immunisation series. Furthermore, the acellular pertussis and the inactivated polio vaccine components are associated with a lower potential for adverse events. □

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