

Hypotonic-hyporesponsive episode (HHE)

for Health Professionals...

Hypotonic-hyporesponsive episode (HHE), is an uncommon reaction to diphtheria, tetanus and pertussis-containing vaccines (and even more rarely to other vaccines).¹ HHE occurs much less frequently following administration of acellular pertussis vaccines (aP) than with the older whole cell pertussis (wP)^{2,3} vaccines which were used in New Zealand until 2000.⁴ While an HHE may appear alarming at the time, research shows it does not result in any long term sequelae.^{3,5}

Signs and symptoms of HHE

The event is characterised by a sudden episode of limpness and unresponsiveness within 12 hours of receiving a vaccine. The average duration of the episode usually ranges from 1-30 minutes, but may last longer. For the event to be considered an HHE, all of the following must be present: limpness, unresponsiveness, pallor and cyanosis.^{4,6} Shallow breathing can also occur.⁷

Rate of occurrence

An HHE is five times more likely to occur after the older whole cell pertussis vaccine than with an acellular pertussis vaccine.⁸ Most reported cases affect infants and children under 2 years of age⁶ and usually only with the first vaccination event.^{9,10} HHE occurred 5 - 8 per 10,000^{9,11} following the older whole cell DTP vaccinations.

Sequelae

An HHE always fully resolves. No adverse outcomes have been observed after these episodes.⁶ Children who have experienced an HHE following a pertussis-containing vaccine have not demonstrated evidence of neurological damage or intellectual impairment.^{2,5} Research shows that it is very rare for a child to experience a second HHE in a child when immunisation is continued.^{6,9,12}

Follow-up care

An HHE should always be reported to the Centre for Adverse Reaction Monitoring (CARM) by the health care professional, parent or both. A documented episode constitutes a precaution (rather than a contraindication) for further doses of the vaccine involved. The affected child should be referred to their GP for assessment. A detailed record of the event should also be recorded into the child's clinical notes.

Re-vaccination

Following an HHE the immunisation programme should be completed. Having an HHE is not a reason to delay the next scheduled immunisation.

For further information contact the Immunisation Advisory Centre: 0800 IMMUNE or (0800 466 863).

To report an HHE contact CARM at: <http://carm.otago.ac.nz/index.asp?link=news&item=19>

References

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