Extending indication for post-exposure immunoglobulin in high-risk measles contacts

Dr Annaliese van Diemen
Manager, Communicable Disease Prevention & Control
Department of Health & Human Services, Victoria

Measles complications

Internationally – WHO 2015 estimates (1)
- 9.72 million cases
- 134,200 deaths

Childhood complications in developed countries CDC (2)
- 25% hospitalised
- 10% develop pneumonia
- 10% develop ear infections
- 0.1% develop encephalitis (1/1000)
- 0.1-0.2% will die
- 4-7/100,000 develop subacute sclerosing panencephalitis
Normal Human Immune Globulin (NHIG)

- In use since the early 1900’s
- Good safety profile (3)
- Effectiveness in studies = NO MEASLES
- Reported effectiveness is variable – 0% to 89% (4-7)
- Victorian guidelines/CDNA guidelines
- NHIG should usually be reserved for contacts at higher risk of disease or severity of disease such as:
  - Susceptible household contacts
  - Immunocompromised individuals
  - Pregnant women who cannot provide evidence of either immunisation or immunity
  - Infants too young to be vaccinated and who are not likely to be protected by maternal antibodies (i.e. infants born to susceptible mothers; those aged 6-8 months; and those aged 9–11 months if not timely for MMR).

Case Studies

Case 1
- Non-immune 2 month old infant (mother not vaccinated)
- Daily contact with infectious case- difficult historian
- NHIG given at likely day 10 post contact
- Rash onset day 16 post contact, PCR confirmed case
- No hospitalisation, no complications, minimally symptomatic

Case 2
- Non-immune 11 week old infant (mother index case, very unwell)
- NHIG given late on day 9 post exposure, (day of mothers diagnosis)
- Cough day 12, rash day 14, PCR confirmed case
- No hospitalisation, no complications, minimally symptomatic other than cough
Considerations for Public Health

What is the aim of Public Health Interventions?
• Prevent cases and outbreaks
• Prevent morbidity and mortality? e.g. Single varicella vaccination

Should we consider extending the indications for NHIG to prevent complications of disease in high risk contacts?
• Prevented morbidity (& mortality)
• Cost effectiveness
• Potentially prevent spread of disease via attenuated illness
• Potentially relevant as more low and middle income countries decrease case numbers and move to individual case follow up

Importance of research embedded in Public Health practice to improve outcomes and learn from cases

Thank you

Jay Healy & Nick McColgan – Public Health Officers DHHS Victoria

Dr Sharon Nowrojee – Public Health Physician, North Metro Public Health Unit, Western Australia

Dr Brett Sutton & Dr Simon Crouch, DHHS Victoria

Lucinda Franklin – Epidemiologist, DHHS Victoria
References


