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Neonatal Varicella

Neonatal Varicella refers to Varicella Zoster Virus (VZV) infection in early neonatal life, **resulting from maternal infection near the time of delivery** or from contact with a person other than the mother with chickenpox or shingles during this time. Some sources refer to this condition as **perinatal varicella.** Neonatal varicella should not be confused with congenital varicella syndrome (CVS) which results from the exposure of a fetus to VZV in early pregnancy. [1]

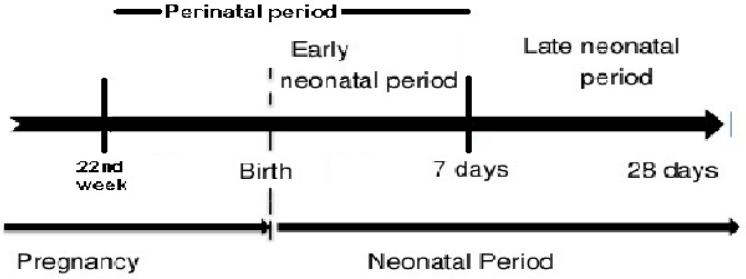
When the infection occurs just before delivery, infants may be exposed to the virus as it crosses the placenta. The infant may not remain in utero long enough to receive protective maternal antibody and may become severely ill in the postnatal period. **Infants are at particularly high risk** for severe varicella infection when the **maternal infection develops from 5 days before to 2 days after delivery**. [1]

When varicella develops in a mother more than 5 days before delivery and gestational age is 28 weeks or more, the infant are generally protected from severe infection and the severity of the disease is modified by tranplacental transfer of antibody. [1]

In maternal infection within **5 days before and 2 days after delivery**, around

17% to 30%

Infants develop neonatal varicella with lesions appearing at **5-10 days of life.** [2]



Clinical manifestation [3]

Fever may develop within the first days after birth, followed by a **generalized vesicular eruption**. The rash starts as **macules** and rapidly **progresses to papules** and then to **characteristic vesicular lesions** before **crusting.** It usually appears first on the head and then generalizes.

20% to 50%

Mortality in neonates without VZV antibody may be due to severe pulmonary disease or widespread necrotic lesions of viscera. [2]

Recommendation for breastfeeding during maternal infection [4]

A) Varicella infection 5 days before or 2 days after delivery:

The mother may transmit the disease to the infant in its severe form, thus **the mother should be isolated** during the contagious phase of lesions up to crust phase. Mother should express breast milk in the mean time and commence breastfeeding when all the lesions have crusted. The infant should be observed up to the 21st day of life.

B) Varicella infection MORE THAN 5 days before or 3rd day ONWARDS after delivery:

Antibodies are transferred to the infant, tranplacentally or via breastmilk. **The mother can breastfeed the infant** provided that precautions such as handwashing, wearing of a mask and covering of lesion are properly taken.

Vaccination is contraindicated in pregnant women due to the risk of transmitting a virus to a developing fetus.

Varicella Zoster Prophylaxis in Newborn : Variations in Guidelines

Paediatric Protocol For Malaysian Hospital 3rd Edition, 2012.	Infants born to mothers who develop varicella between 7 days antenatally and 14 days postnatally should receive as prophylaxis: **1.** **Varicella Zoster immunoglobulin (VZIG)** within 96 hours of initial exposure (Attenuation of disease might still be achieved with administration of VZIG up to 10 days) . **NOT AVAILABLE IN HUKM** **2.** If VZIG not available, **IVIG 400mg/kg AND** 3. **IV Acyclovir 15mg/kg/dose over 1 hour every 8 hours** (total 45mg/kg/day) for 5 days. Infants whose mothers develop Zoster before or after delivery have maternal antibodies and they will not need VZIG.
The Royal College of Obstetricians and Gynaecologists (RCOG), 2015	For babies born to mothers who have had chickenpox within the period 7 days before to 7 days after delivery, it is therefore vital that the neonate receives **prophylaxis as soon as possible with VZIG** without antibody testing in infant**. If any symptoms develop** despite VZIG prophylaxis**, early treatment with IV Acyclovir 20mg/kg/dose 8 hourly** is recommended [6,7]
Red Book 29th Edition, American Academy of Paediatric, 2012	Newborn infant whose mother had onset of chickenpox within 5 days before delivery or within 48 h after delivery is a candidate for VZIG. **VZIG (VariZIG®):** given IM at recommended dose of **125iu/10kg**, (min dose 62.5iu, up to a max of 625iu) If VZIG not available, **IVIG 400mg/kg administer once** If VZIG not available or more than 96 hours have passed after the exposure, some experts recommend prophylaxis with **IV Acyclovir 20mg/kg/dose** administer 4 times per day (max daily dose of 3200mg) beginning 7 to 10 days after exposure. (Varicella can develop between 2 and 16 days after birth in infants born to mothers with active varicella around the time of delivery) VZIG is not indicated for healthy full term infants who are exposed postnatally to varicella, including infants whose mother's rash developed more than 48h post delivery.
BNF for Children, Sept 2016-2017	**VZIG (non-proprietary):** 250mg to be administered IM as soon as possible-not later than 10 days after exposure, 2nd dose to be given if further exposure occurs more than 3 weeks after the first dose, no evidence that it is effective in severe disease. Prophylactic **IV Acyclovir 10mg/kg every 8 hours** should be considered for neonates whose mothers develop chicken pox 4 days before to 2 days after delivery and to be continued until serological tests confirm absence of virus.

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