Chicken Pox

Varicella Zoster Virus – a herpesvirus. Primary viraemia is to reticuloendothelial cells, with a secondary viraemia to skin and viscera, producing signs and symptoms of infection. Typical incubation period is 10-21 days; infectious period commences 2 days prior to the rash, and ends once all vesicles are crusted over – usually 5-6 days after first vesicles form.

Prodromal symptoms (fever, malaise, myalgia, anorexia, headache, nausea) more likely in older children/adults. Younger children typically present with rash. Rapid progression of rash macules -> papules -> vesicles -> pustules -> crusting in less than 24 hours. Sequential crops of lesions appear.

Subclinical infection can recur, but clinical manifestation of chicken pox in an immunocompetent patient is very rare.

Reactivation of dormant infection in sensory ganglia leads to Herpes Zoster (shingles).

At-risk groups for severe infection:

- Foetus under 20/40 – risk of foetal varicella syndrome (high mortality, birth defects including microcephaly, limb hypoplasia). Highest risk 12-20 weeks – around 2% incidence to mothers with acute infection
- Neonates (up to one month) – particular risk of transfer if mother has infection in the week either side of delivery
- Premature delivery (before 28/40)
- High dose steroid (>1-2mg/kg prednisolone or equivalent) – definite risk if taken for >2 weeks; some increased risk from short courses around time of exposure
- Malignancy
- Immunocompromise (HIV, defects of cellular immunity)
- Pregnancy – particular risk of pneumonia

Breast feeding is not an issue – live virus not found to be expressed in breast milk.

UK recommendations for immunisation and immunoglobulin:

- Pre-exposure prophylaxis for
    - Healthcare workers (definite history of infection; if not, positive antibody test; if not immunisation)
    - Immediate family of immunocompromised children
    - Should not be given during pregnancy; women should be advised not to attempt to become pregnant until three months after immunisation
- VZIG if meet all three criteria
    - Significant exposure (face to face; same room for >15 minutes)
    - At risk for severe varicella
    - No antibodies to varicella
        - If no previous history of infection, test and treat if antibodies not found or if result not available until >7 days from exposure
        - If previous history of infection, treat only if antibodies not detected
        - Neonates

- Slightly different rules in pregnancy – previous history of varicella is sufficient to assume antibodies will be present; in others antibody test prior to treatment with VZIG. If VZIG stocks are low, routine treatment in pregnant patients may be restricted.
- No role for VZIG in the treatment of established disease

Aciclovir can shorten duration of fever and rash slightly, but has no effect on complications and is not recommended for routine use.

More detailed discussion from the Department of Health green book, available here:

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_079917

Chapter 34 is the relevant one to VZV.