INVESTIGATING PREGNANT WOMEN EXPOSED TO A RASH

Significant exposure is defined as 15 min in same room or face to face contact [for measles less exposure may be significant]

IgM refers to those antibodies that are produced immediately after an exposure to the disease, while IgG refers to a later response. IgG generally confers immunity to a patient so far as that particular disease is concerned.

Exposure to varicella, measles, rubella and parvovirus 19 in pregnancy can have adverse outcomes for non-immune mothers and their babies.

Consider postnatal vaccination in women identified at risk of rubella, measles and varicella. [Varicella vaccination is now provide for people aged 70/78/79]

Features of Congenital Rubella syndrome include:
- deafness in about 80%
- heart defect or patent ductus arteriosus in about 60%
- mental retardation in about 55%
- retinopathy, described as salt and pepper, in about 50%
- cataract in about 30%
- glaucoma
- microencephaly
- hepatosplenomegaly, retarded growth, thrombocytopenia
- osteitis

Features of Congenital Varicella Syndrome
- hypoplasia of one limb
- cicatricial lesions with a dermatomal distribution
- neurological abnormalities:
  - hydrocephalus
  - microcephaly
  - Horner's syndrome
- eye abnormalities:
  - cataracts
  - chorioretinitis
  - microphthalmia
- growth retardation
- gastrointestinal structural defects
- genitourinary structural defects
Viral rashes: how to recognise them, incubation and infectivity periods and what to do!

### Varicella (chickenpox)

**Infective & incubation period**
- Infectious from 48h before rash appears until all lesions crusted
- Incubation 10–21d

**Symptoms in childhood**
- Mid fever, malaise prodrome
- Vesicular rash – usually starts on head and spreads down to trunk

**Risks of infection**
- Severe illness in mother including 5x greater risk of pneumonitis
- 0–20w: congenital varicella (0.4–2%)
- 13–40w: shingles in infancy (1–2%)
- 4d before to 2d after delivery: severe neonatal varicella (20%)

**Be reassured if:**
- Clear personal history of chickenpox/shingles (90% of women brought up in UK)
- Received varicella vaccine

**Test if:**
- No history of infection/vaccine
- History uncertain
- Woman from tropics/subtropics (only 50% are immune)

**Action**
- Check varicella IgG urgently (ideally on stored booking bloods):
  - If IgG +ve no action is needed
  - If IgG –ve refer for VZIG (Immunoglobulin); needs to be given within 72h of contact (or 10d of rash appearing in index case)
  - If they DON’T develop varicella consider postnatal vaccination

### Rubella (notifiable)

**Infective & incubation period**
- Infectious 7d before rash to 10d after
- Incubation 14–21d

**Symptoms in childhood**
- Low grade fever (1–5c)
- Mild URTI
- Maculopapular discrete pale pink rash (begins at hairline), fades to pale brown in 4d

**Risks of infection**
- <11w: 90% congenital rubella syndrome
- 11–16w: 20% congenital rubella syndrome
- 16–20w: small risk of deafness

**Be reassured if:**
- 2 doses of rubella vaccine
- 1 previous rubella vaccine AND at least ONE rubella antibody test result IgG >10IU/ml
- TWO rubella IgG antibody test results >10IU/ml
- (HPA guidance Jan 2011)

**Test if:**
- Unvaccinated or incomplete vaccination and no rubella antibody IgG results >10IU/ml as per criteria to left

**Action**
- Check rubella IgM and IgG:
  - If both negative repeat at 1m
  - If IgG >10IU/ml and no IgM reassure
  - Refer if IgM detected
  - Consider termination if confirmed rubella <16w gestation
  - HNIG (human normal Ig) for seronegative women who would not consider termination (though no evidence)
  - Vaccinate with MMR postnatally

### Measles (notifiable)

**Infective & incubation period**
- Infectious 4d before rash to 4d after
- Incubation 7–18d

**Symptoms in childhood**
- High fever (2–4c)
- Cough, coryza, conjunctivitis
- Koplik spots
- Maculopapular dark red/purple rash (begins in hairline); may coalesce

**Risks of infection**
- Severe pneumonia in mother
- 0–40w: increased foetal loss, premature delivery, low birth weight
- Perinatal: severe measles

**Be reassured if:**
- Full course MMR vaccine
- Two doses of measles-containing vaccine

**Test if:**
- Unvaccinated or incomplete vaccination

**Action**
- Check measles IgG:
  - If –ve reassure
  - If –ve refer urgently for HNIG which should be administered within 6d of exposure; give MMR postnatally

### Parvovirus B19 (slapped cheek)

**Infective & incubation period**
- Infectious from 10d before rash to rash onset
- Incubation 13–18d

**Symptoms in childhood**
- Low grade fever/URTI (2d)
- May be asymptomatic
- ‘Slapped cheek’ spares periocular area and nasal ridge

**Risks of infection**
- <20w: 9% excess foetal loss
- 3% develop hydrops with 50% mortality

**Be reassured if:**
- Don’t! Clinically more difficult to diagnose – many will be immune without realising they had the illness!

**Test if:**
- Any pregnant woman with a good history of likely exposure

**Action**
- Test for parvovirus B19 IgM (remains positive for 1m) and IgG:
  - If IgG +ve and IgM –ve and within 1m exposure, reassure
  - If IgM and IgG –ve, repeat test in 1m
  - If at any stage IgM +ve, refer obstetricians (for foetal monitoring)
  - No post-exposure prophylaxis is available

*For all the above, if serology results are not going to be available within the timeframe that immunoglobulin should be given in, then discuss with obstetricians and infectious disease teams for plan of action.*