Sensible strategies in perinatal viral infections

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If resource-poor, like the Philippines

Practical diagnostics and clinical clues for:

- **CMV**
- **HSV**
- **Rubella**
- **Varicella**
- **Excluding HIV**

Clinical scenario

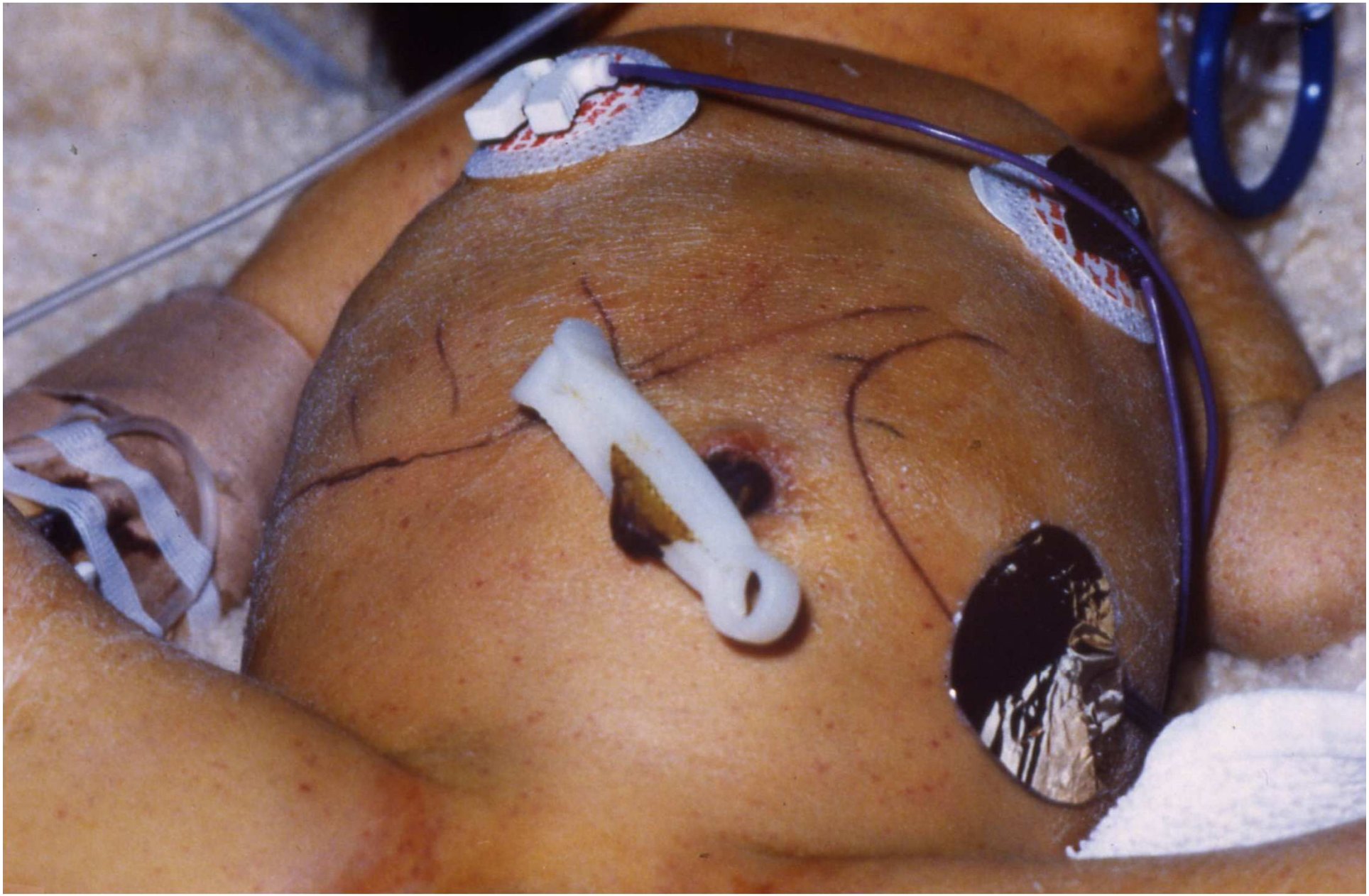
- **7 day old boy with jaundice**
- **Born at 35 weeks gestation, 5.25 pounds (2.38 kg)**
- **Mother 25 primigravida, poor antenatal history**

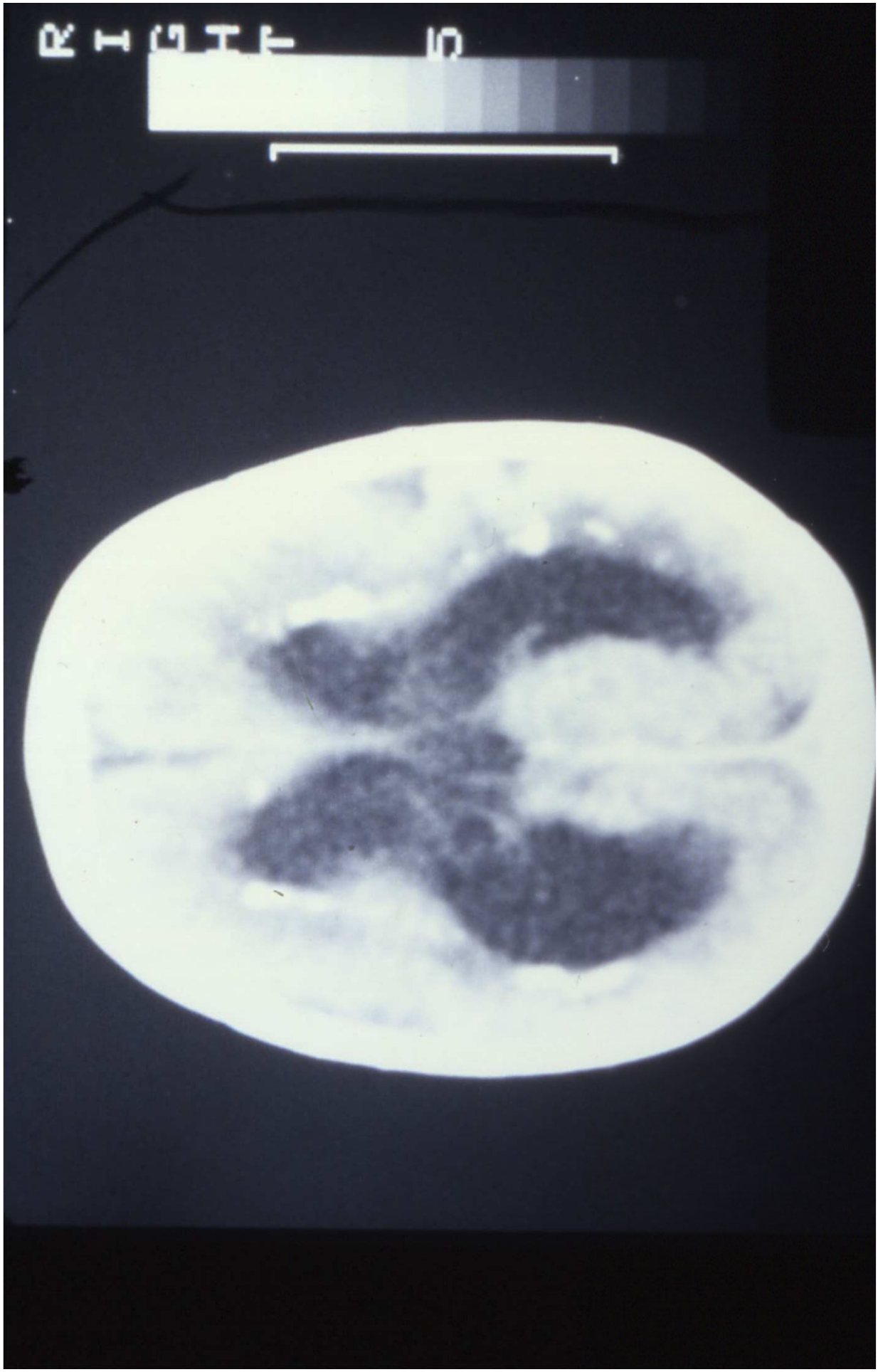
Clinical examination

- **Heart rate 140**
- **Respiratory rate 56**
- **Temperature 36.4^{o}C**

- **Weight 1.8 Kg (BW 25th %^{ile} but lost 540 g = 22%)**

- **Generalised jaundice, petechial rash**
- **Hepatosplenomegaly (liver 3cm, spleen 2cm)**





Congenital CMV infection

- **Most (85-90%) are asymptomatic**
- **If asymptomatic, 10% will develop progressive sensorineural deafness**
- **If symptomatic: classic triad is petechial rash, jaundice and hepatosplenomegaly**
- **Half have IUGR**
- **Half microcephalic**

Diagnosis of congenital CMV

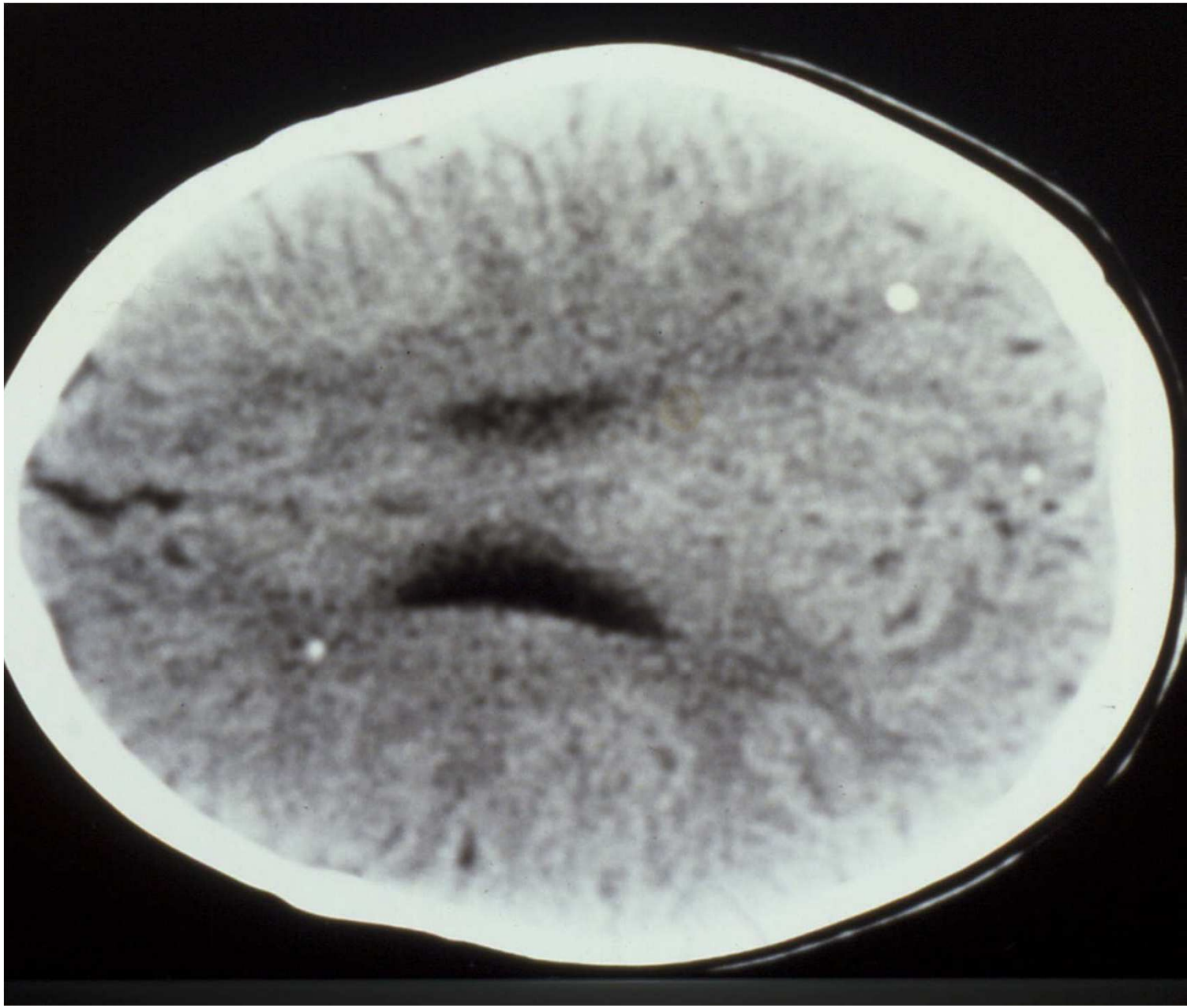
- **Thrombocytopenia**
- **Mild hepatitis**

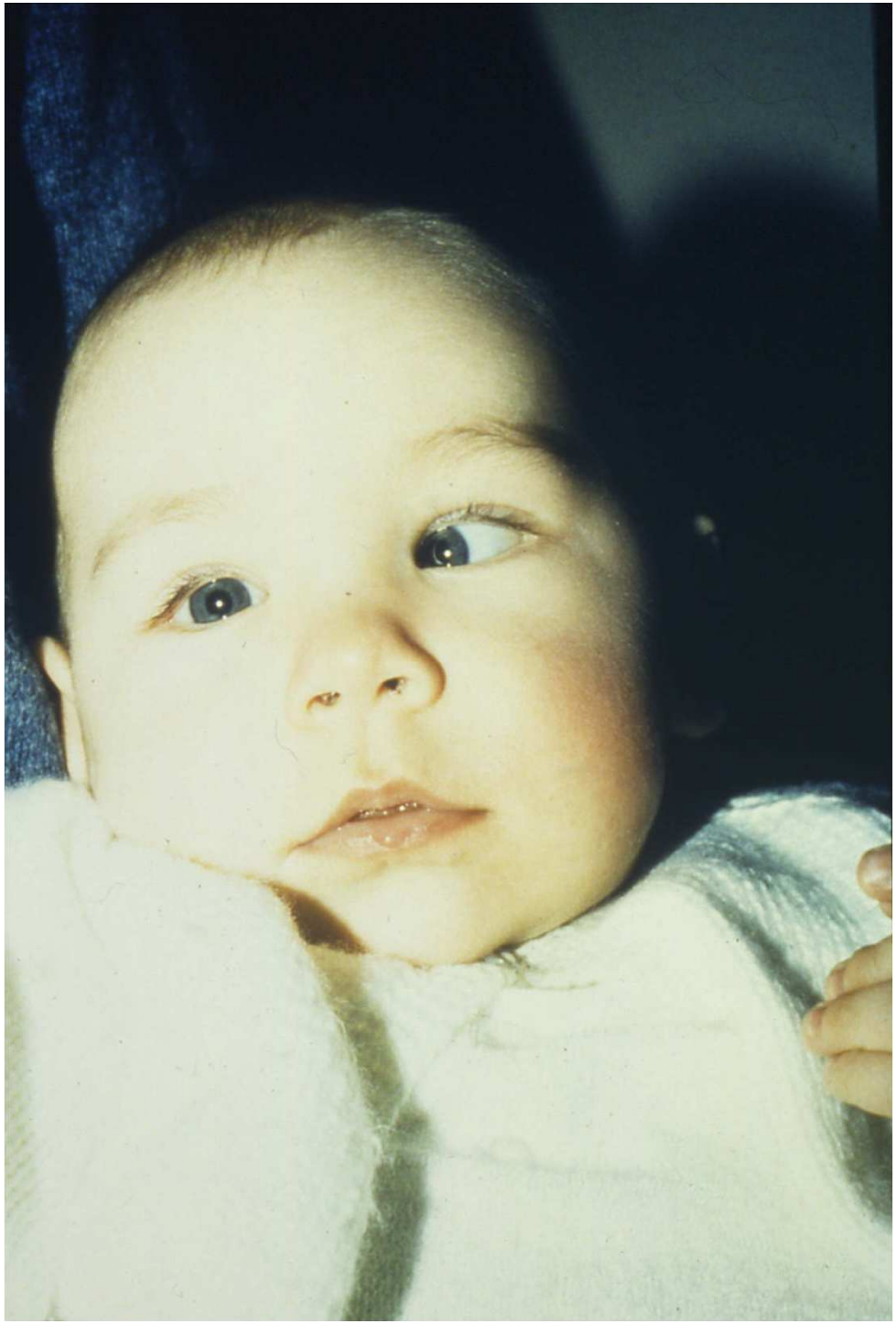
- **Urine CMV: culture or immunofluorescence or PCR**
- **Nasopharyngeal aspirate**
  - **in first seven days after birth = congenital**

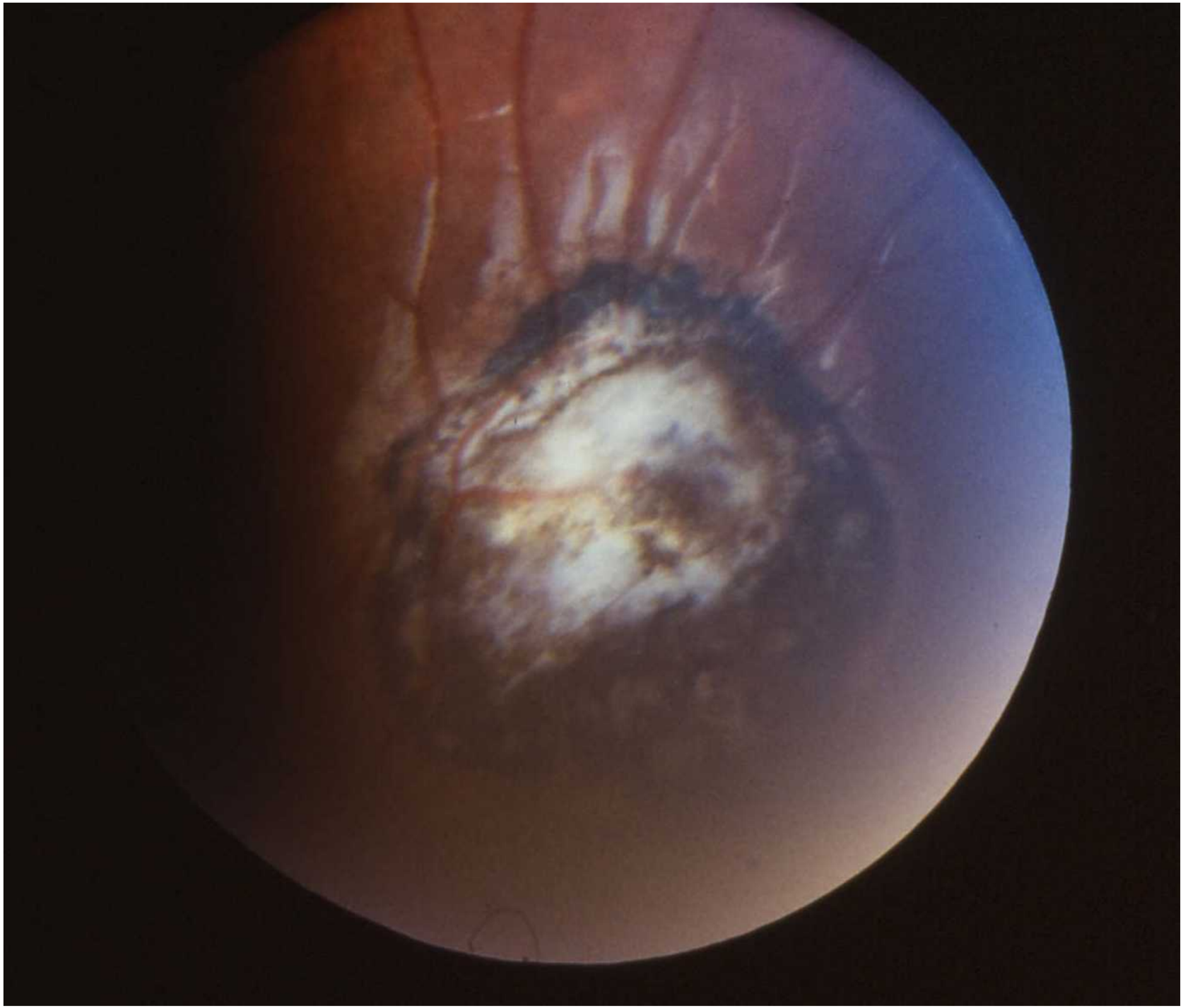
- **Serum IgM to CMV**

Congenital toxoplasmosis

- **Classic triad is hydrocephalus, chorioretinitis and intracerebral calcification**
- **Purpuric rash due to extramedullary haemopoiesis ('blueberry muffin') rare**
- **Can have jaundice, hepatosplenomegaly, anaemia, etc.**







Diagnosis of congenital toxoplasmosis

- **Serum antibodies: IgM, IgA**
- **Maternal antibodies**

Treatment of congenital toxoplasmosis

- **Pyrimethamine:**
  - **loading dose 1 mg/kg 12-hourly for 2 days**
  - **then, 1 mg/kg daily for 2-6 months**
  - **after which, 1 mg/kg 3 times/week to total one year**

AND

- **Sulfadiazine 50mg/kg 12-hourly for one year**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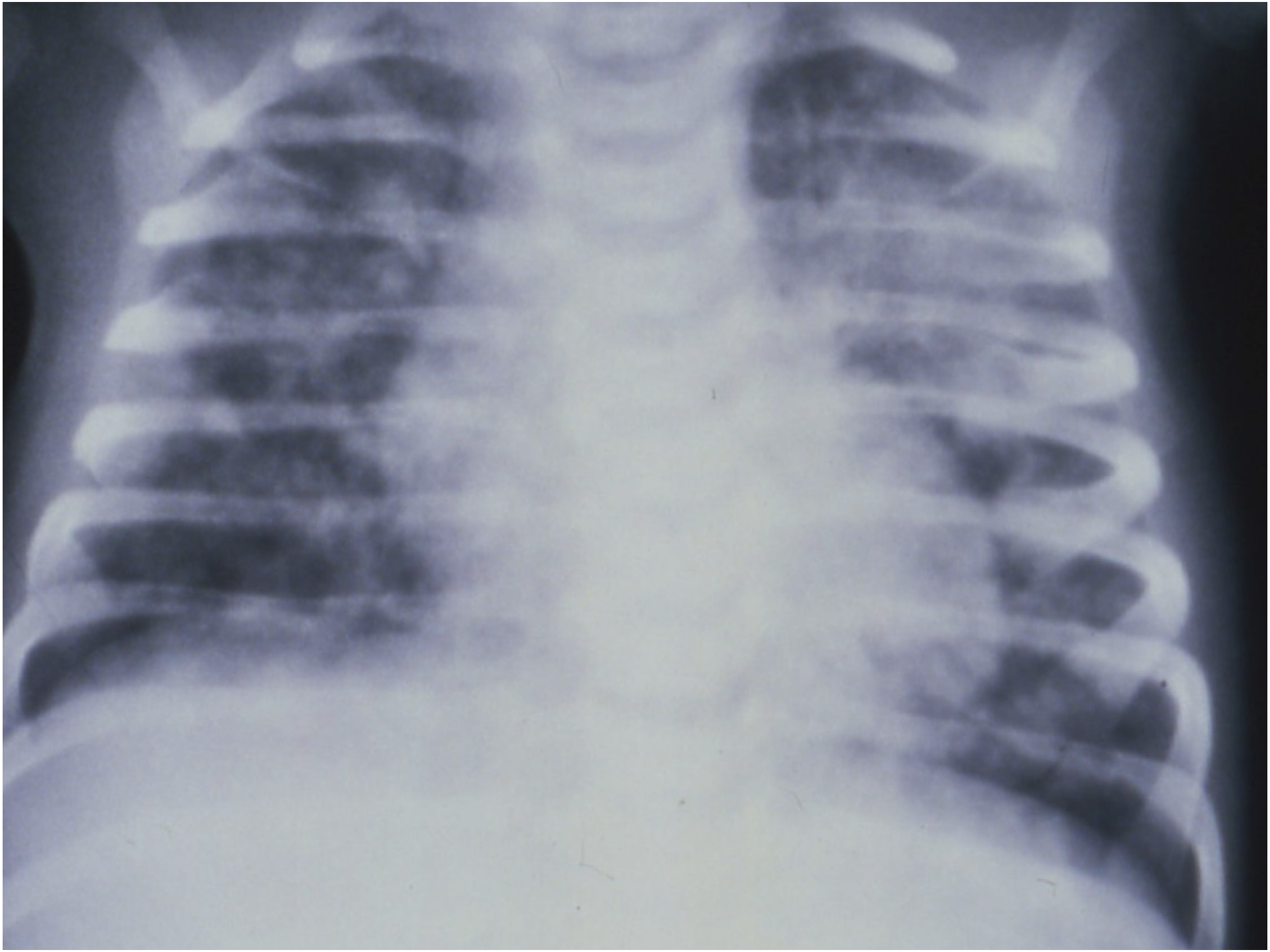


Diagnosis of neonatal HSV

- True congenital HSV can occur, very rare (TORCH)
- Rapid detection of HSV in NPA: I/F, PCR
- Serum IgM
- Importance of LP: prognosis, duration

Treatment of neonatal HSV

- **Aciclovir 20 mg/kg/dose 8-hourly IV for 2-3 weeks**
- **3 weeks for encephalitis**

Rubella

Rubella post-auricular lymphadenopathy

Rubella

‘Third disease’

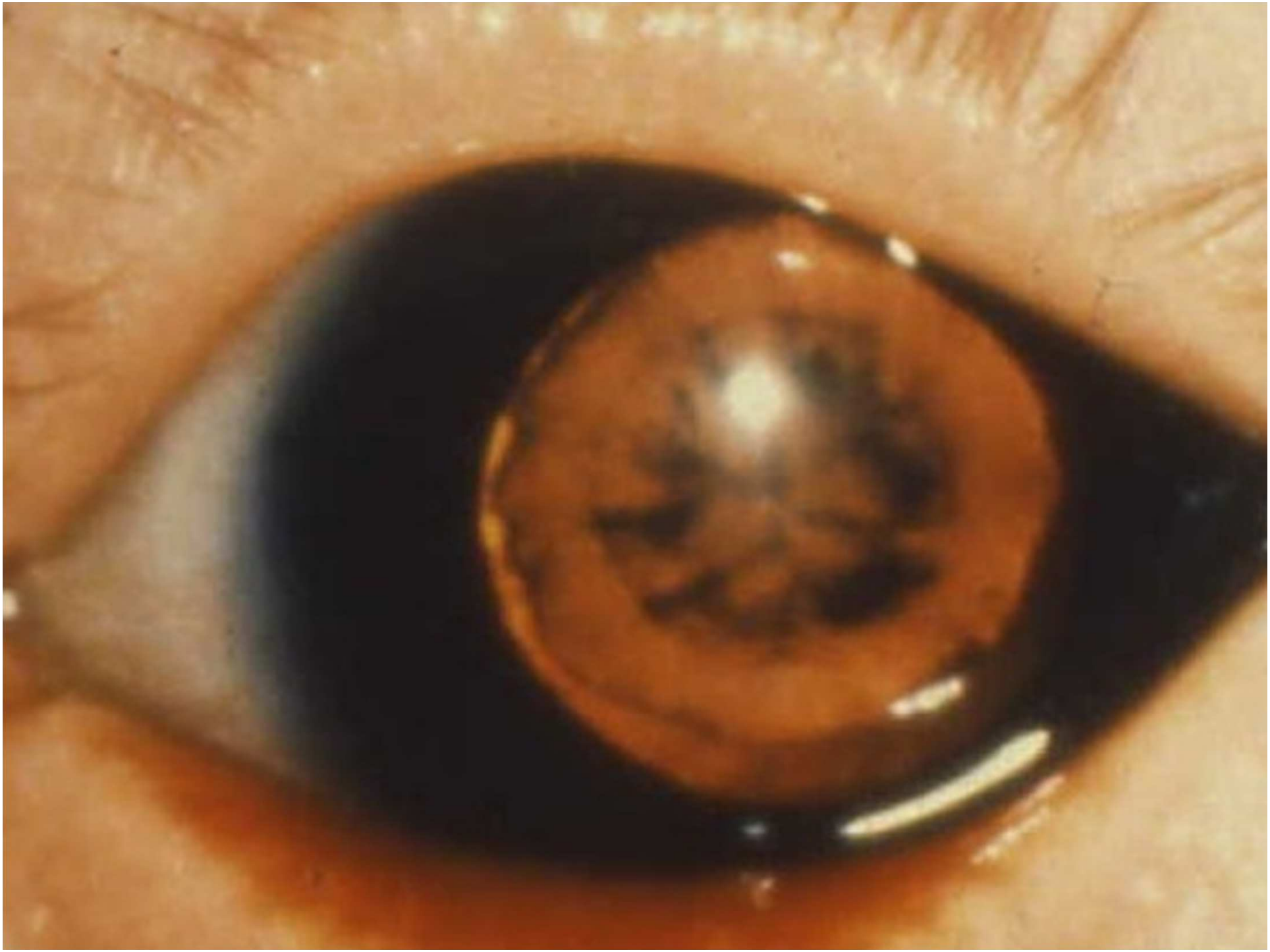
Mild illness with rash, neck lymphadenopathy, arthritis, mild fever

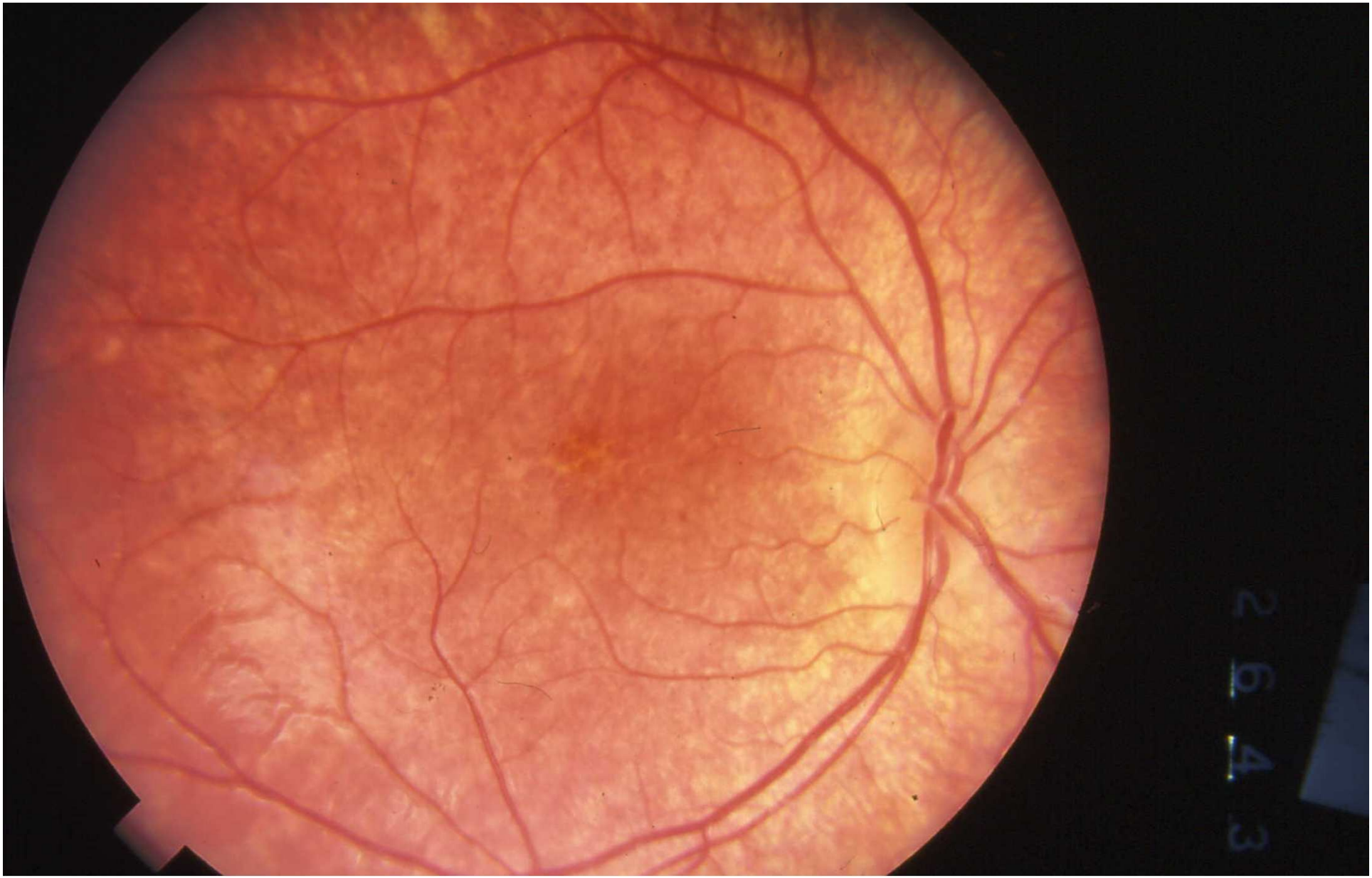
Rubella = German measles (‘a little red’)

Rubelliform rash = rubella-like

Congenital rubella

- **Severe sensorineural deafness**
- **Eye defects: cataract, salt-and-pepper retinopathy**
- **IUGR**
- **Microcephaly**

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Diagnosis of congenital rubella

- **Serum IgM**

Prevention: vaccine (including MMR)

Need to immunise all children or may get paradoxical increase in CRS

Congenital VZV infection

- **Maternal chickenpox 12-20 weeks**
- **‘Cicatricial’ scarring**
- **Clinical diagnosis**
- **Counsel risk 1-2%**

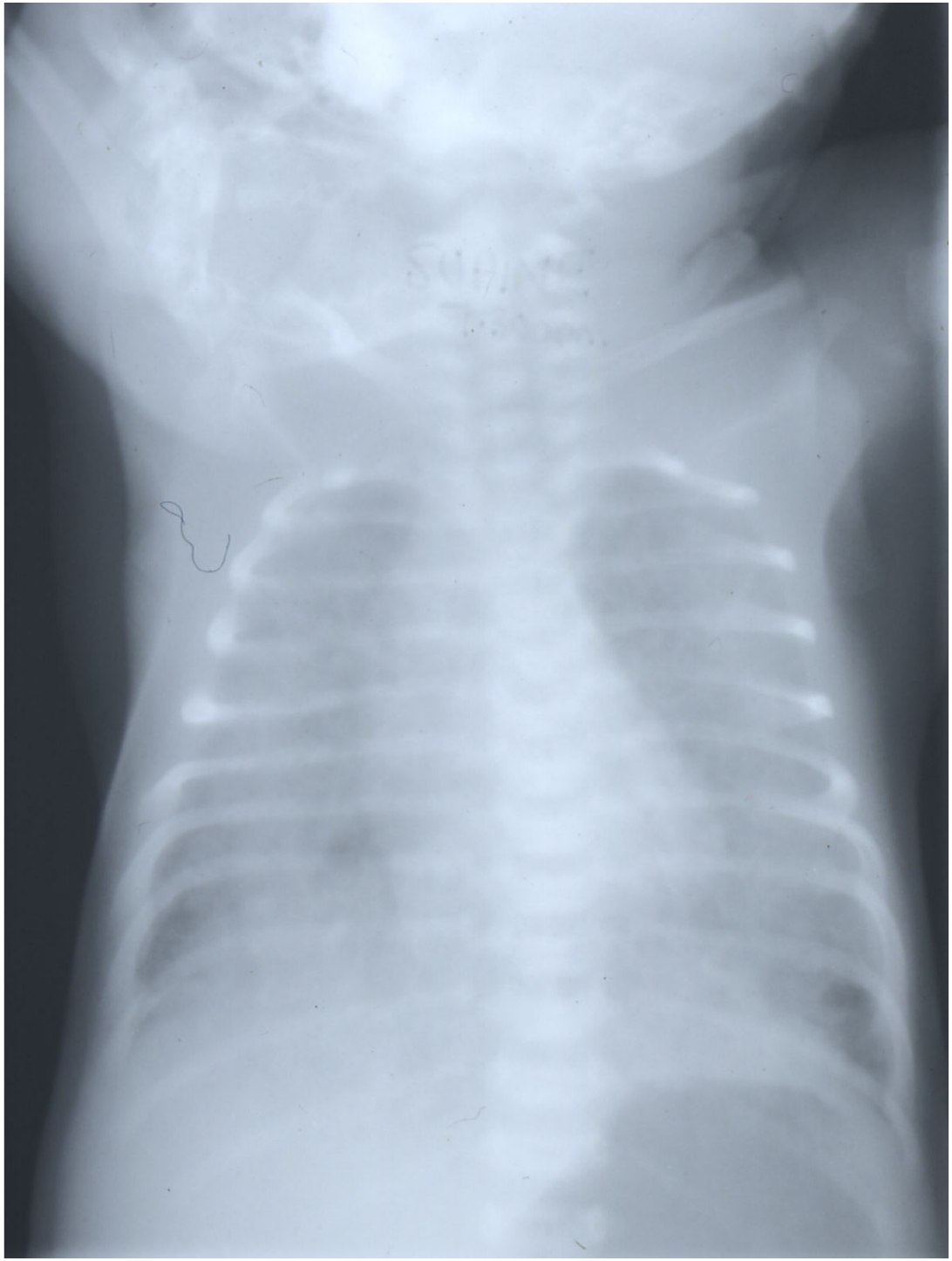
Perinatal VZV infection

- **Neonatal VZV: primary maternal chickenpox 7 days before to 2 days after delivery**
- **Baby gets lots of virus and no maternal antibody**

- **No risk from maternal zoster (lots of antibody)**

Prevention of neonatal VZV infection

- **ZIG or VZIG**
- **Recommended dose 250mg IM**
- **Give as soon as possible after birth**

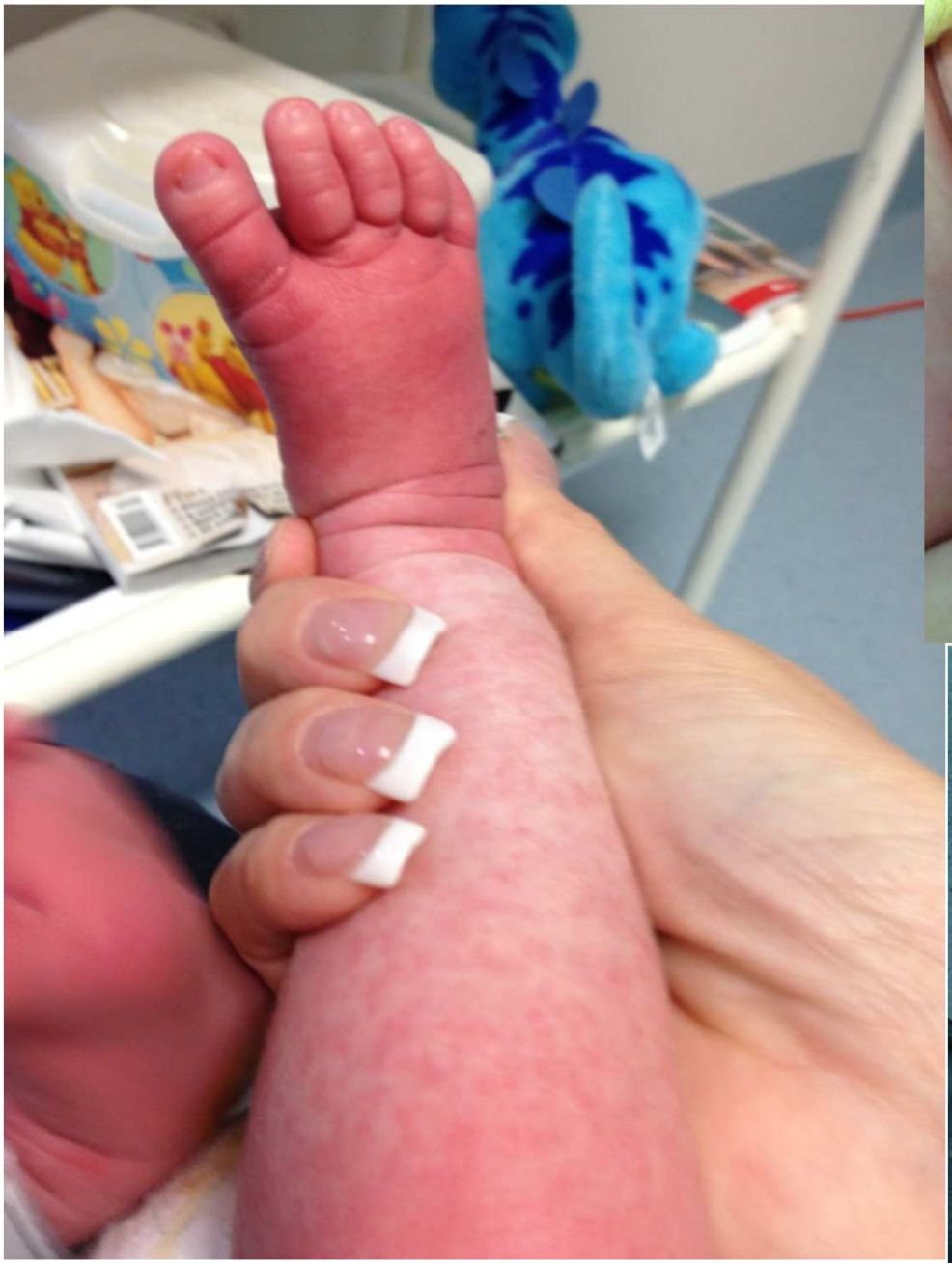


Treatment of neonatal VZV infection

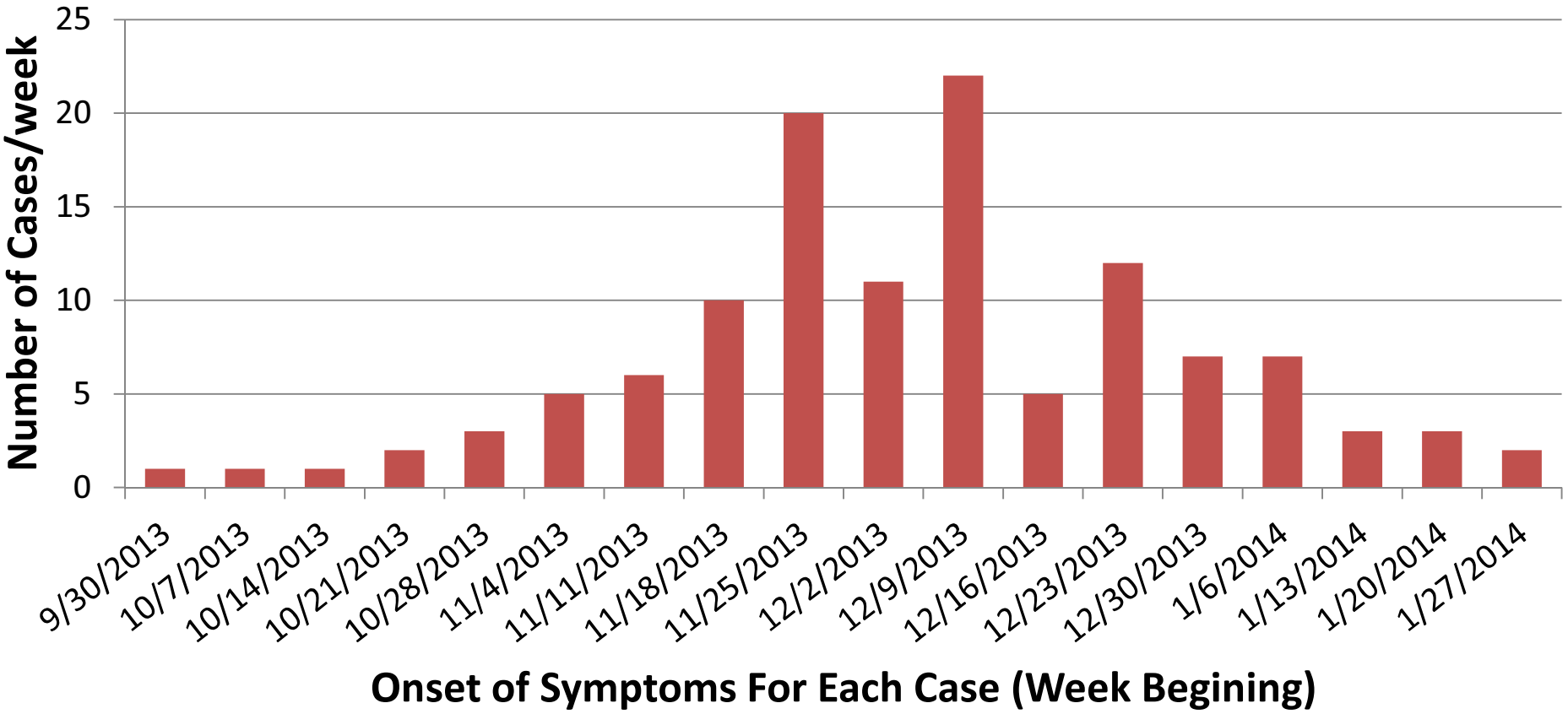
- **IV aciclovir 20 mg/kg/dose 8-hourly**

Parechovirus infections

- Hot, red, angry babies
- Tachycardic and tachypnoeic
- In pain
- Echovirus PCR negative



Number of confirmed HPeV cases/week admitted to 4 hospitals in NSW



Baby DO

- **Mother 25 year old Nigerian, one normal baby**
- **Normal serology**
- **Normal morphology scan at 22 weeks**
- **Reduced fetal movements at 34 weeks, LSCS**

At birth

- **Boy, weight 3040g (>97th % for 34 weeks)**
- **Distended abdomen with hepatosplenomegaly**
- **Oedema (hydrops)**
- **Hb 7.1, WCC 4.3 (N 1.9, L 1.7), Platelets 48**
- **Diagnosis?**

Haemophagocytic Lymphohistiocytosis (HLH)

- **Congenital or acquired**
- **Important treatable acquired causes to exclude:**
- **HSV infection**
- **Tuberculosis**