"Let us have our little revolution"

A woman in Järna, Sweden, with ongoing rubella outbreak, speaking for her right not to vaccinate her child against rubella Svenska Dagbladet, Aug 13th 2012

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Conclusion

- Negative PCR for rubella of amniotic fluid earlier than 7-8 weeks after maternal infection and before 21-22 wg does not rule out fetal infection PCR on fetal blood or chorion villi may allow for earlier diagnosis
- Lacking immunity for rubella despite earlier vaccination among the attending personnel

Background

- Maternal rubella infection in early pregnancy carries a high risk of resulting in miscarriage, fetal death or Congenital Rubella Syndrome (CRS) which may manifest as heart defects, eye involvement, deafness and other defects in the central nervous system.
- WHO has set a goal of eliminating measles and rubella in at least five of the six WHO regions by 2020.
- WHO recommends a 95% or above coverage with two doses of MMR vaccine in order to achieve and maintain good population immunity.
- Vaccination against rubella has drastically reduced CRS in developed countries, but worldwide it is estimated that over 100 000 babies are born with CRS each year.
- Recent outbreaks in several European countries.

Case report congenital rubella syndrome

Baby girl born to Asian mother infected with rubella during a holiday in her country of origin at 9 weeks of gestation (wg).

Laboratory diagnosis:

- IgG pos and IgM neg on maternal blood at 15wg, indicating uncertainty concerning recent rubella infection, as IgM can disappear 5-6 weeks after infection.
- PCR negative for Rubella RNA on amniotic fluid at 16wg.
- New antibodies in maternal blood at 22wg show rising IgG avidity, indicating a recent infection.

Induced delivery at 36wg due to suspected growth retardation. APGAR 3-8-8. Birth weight 1665gr.

Findings at birth:

- SGA, anemia, thrombocytopenia, petechiae, bilateral cataract, suspect deafness, small PDA
- Rubella PCR pos in urine, neg in throat swab and conjunctivae. Rubella IgG pos in umbilical blod.

At 4 months sudden deterioration due to lower respiratory tract infection. Seizures. Multi organ failure requiring mechanical ventilator support for five days. Pneumocystis jirovicii was identified, uncertain clinical relevance. Gradual recovery.



Present status:

At 11 months the baby is no longer contagious. Cataract has spontaneously resolved in one eye, and the infant gives eye contact and smiles. No certainty of hearing. Signs of further neurological damage with microcephaly, high muscular tone, head lag, delayed motor skills, failure to thrive. Methods for diagnosing rubella infection of the fetus Confirmation of recent maternal infection by rubella PCR in a clinical sample, the detection of rubella IgM with low avidity IgG in serum, and/or a significant rise in avidity in samples taken 10 days apart.

PCR of amniotic fluid , fetal blood or chorion villi, rubella specific IgM in fetal blod