



Appendix

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Appendix to: Keighley C, Skrzypek HJ, Wilson A, et al. Infections in pregnancy. *Med J Aust* 2019; 211.
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Case study 1. Investigation in pregnancy, working with the laboratory

A 31 year old woman (G1P0) presents at 10 weeks gestation complaining of subjective fever, generalised rash and arthralgia. She had no headache or ocular symptoms. She had returned from Peru where she had travelled with her husband 12 weeks earlier. She did not recall having been bitten by mosquitos though her husband had been.

Physical examination demonstrated that she was afebrile, had a generalised maculopapular rash and no other relevant examination findings. Initial investigations revealed a mildly increased monocyte count with a normal white blood cell count and normal C-reactive protein. Laboratory findings were negative for Zika virus IgM and positive for Zika virus IgG. Her husband also underwent testing and was Zika virus IgM and IgG negative.

Her case was discussed with a clinical microbiologist. Further history revealed that she had received yellow fever vaccination. Her serum sample was tested at a reference laboratory where it was negative for Zika virus IgM and IgG, and positive for yellow fever IgG. A second serum sample was also negative for Zika virus IgG and IgM. Paired sera revealed seroconversion to parvovirus B19. She was referred to the materno-fetal medicine unit and underwent further evaluation and management of parvovirus B19 in pregnancy.

Case study 2. Congenital CMV

A 28-year-old woman who was G3P2, normally fit and well, saw her general practitioner at 12 weeks gestation with a five-day history of fever, myalgia and fatigue. She was febrile to 38.2°C, her heart rate was 110 beats per minute and examination was otherwise unremarkable. The fundal height was consistent with dates and the fetal heart beat was heard. The previous two pregnancies had been uncomplicated with term normal vaginal deliveries of well-grown babies. She and her partner owned and managed a local restaurant. Her youngest child was two years old and attended day care. Influenza vaccination had not yet been given during this pregnancy.

A nasopharyngeal swab was collected for respiratory viral PCR and oseltamivir prescribed for suspected influenza. No respiratory virus was detected and she had improved 48 hours later. However an atypical lymphocytosis and mild transaminitis were noted. CMV and EBV serology were performed and revealed a positive CMV IgM and IgG. After discussion with the laboratory, CMV IgG avidity was added on, and reported as low avidity. Antenatal serum from 6 weeks gestation was retrieved and was negative for CMV IgG, proving seroconversion in first trimester of pregnancy consistent with primary CMV infection.

The woman was seen in the maternal fetal medicine unit for further discussion and management. Potential fetal sequelae were discussed and the woman and her partner elected to continue the pregnancy. Amniocentesis, performed at 21 weeks gestation, was positive for CMV PCR. The administration of hyperimmune globulin and antivirals in a trial setting was discussed and declined. Ultrasound surveillance including neurosonography revealed no abnormalities. Spontaneous labour resulted in normal vaginal delivery at 39+4 weeks gestation. Placental histopathology showed villitis. Paediatric review was sought. The infant had a normal newborn examination, normal liver function tests and full blood count but urine and saliva CMV PCR testing were positive. Newborn hearing testing was normal. Paediatric neurodevelopmental follow up demonstrated mild sensorineural hearing impairment at 18 months of age.