

P1338 Molecular diagnosis and histopathological features of placentas from pregnant women travelling from affected areas with confirmed and probable Zika virus infection

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Background

Zika virus (ZIKV) represents a global threat with potential harmful consequences on reproductive and infants' health. The virus has been identified in different human samples such as blood, urine, semen, breast milk, saliva, CSF and placenta. Research in the changes of placentas exposed to the virus is needed in order to light up the knowledge of the mechanism of infection of ZIKV in the uterus, its transmission to the fetus, association with poor fetal outcomes and maternal persistent viremia. We aimed to describe the molecular and histopathological features of ZIKV infection and their association with pregnancy outcomes.

Material/Methods

All pregnant women attending to the Hospital Clínic of Barcelona or Hospital Sant Joan de Déu with history of recent travel to ZIKV affected areas were invited to participate in the study. Screening for ZIKV was offered (RT-PCR, serology and microneutralization assay), and demographic, obstetric and clinical characteristics were collected. Only confirmed and probable cases were followed-up throughout pregnancy and samples were collected at the delivery. The whole placenta was collected in order to obtain placental blood for RT-PCR, but also samples were taken for anatomopathological analysis. Standardized questionnaires with information on chorioamnionitis, villous cells, inflammatory reaction in the intervillous space, fibrin depositions, infarcted areas, oedema, fibrosis and calcifications, were collected.

Results

From 1st January 2016 to 31st October 2017, 176 pregnant women were screened for ZIKV at Hospital Clínic and 26 placentas were tested for molecular diagnosis of ZIKV. Twenty five showed negative results and one placenta (residues from the curettage of an early pregnancy loss) tested positive by RT-PCR and the infective virus was isolated in the tissue. Fibrin depositions and calcifications, among other markers of infection, were diagnosed in these placentas.

Conclusions

Even though ZIKV has been well studied in the recent two years, there is a gap of knowledge in the characterization of placentas exposed to the virus. Research in the physiopathological changes of placentas is key in order to understand the mechanisms of infection.

