



Detection of antenatal viral infection in normal and preeclampsia complicated pregnancy

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Objective

Preeclampsia is a common pregnancy disorder that originates in the placenta and causes variable maternal and fetal problems. In the worst cases, it may threaten the survival of both mother and baby. There are different models for the pathogenesis of preeclampsia, with the inflammatory model being one of them. There is a growing body of evidence suggesting a causal link between maternal infection, particularly viral infection, and preeclampsia. Maternal infection, including viral infection, may therefore be important in the pathogenesis of preeclampsia. The aim of study was to evaluate how useful ultrasound examination is to detect abnormalities associated with fetal viral infection, in normal and preeclamptic pregnancies. We also aim to predict the manifestation of preeclampsia in pregnancies affected by intrauterine viral infection.

Methods

An observational, case-control study involving screening ultrasound examination (USD) were performed in the 2nd and 3rd trimester in 2577 healthy pregnancies (Group 1); 78 pregnancies with biochemical evidence of intrauterine viral infection (IVI) (Group 2) and 35 patients with a diagnosis of preeclampsia (Group 3). Cross-correlation analysis was performed in these three groups using statistical methods.

Results

Group 1 (2577 patients): Specific changes in the fetus and placenta observed in 37 cases (1.44 %) and none determined in 2540 cases (98.56%). Groups 2: (78 patients): Specific changes in the fetus and placenta observed in 28 cases (35.8 %) and none determined in 50 cases (64.2 %). Group 3: (35 patients) specific changes in the fetus and placenta observed in 31 cases (88.6 %) and none determined in 4 cases (11.4 %). Persistence of infection detected 23 (62.0 % of 37 cases) and none detected in 14 (38.0 % of 37 cases).

Conclusion

Ultrasound scanning is capable to detect most of the features, which are typical of fetal infection. Doppler studies can be used to study alterations in vascular flow that result from congenital infection. Ultrasound scanning is capable to predict the manifestation of preeclampsia in pregnant affected by intrauterine viral infection. The use of the routine ultrasound examination as a separate screening test to detect viral intrauterine infection has certain limitations and further biochemical tests are needed to confirm these findings.