Correlation between uterine artery Doppler sonography and severity of pre-eclampsia & fetal distress

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Objective
Study on the correlation between the morphology of uterine artery Doppler waves with pre-eclampsia severity, correlation between the morphology of uterine artery Doppler waves with fetal distress and using uterine artery Doppler waves to predict fetal distress.

Methods
Prospective cohort study on 116 patients diagnosed with pre-eclampsia at Department of Obstetrics & Gynecology, Hue University Hospital. Pre-eclampsia levels were classified according to ACOG (2013). Color Doppler ultrasound was performed on uterine arteries using Siemen Acuson X 300 machine. The diagnosis criteria was evaluated base on the morphology of waves and NOTCH sign.

Results
There was correlation between the morphology of uterine artery Doppler waves with the type of preeclampsia and fetal distress. Among 46 patients with sever preeclampsia, the rate of abnormal of the waves uterine Doppler is 78.2%, and the rate of normal of waves uterine Doppler is 22%. With the mild preeclampsia group the rate of abnormal was only 48.3% while the rate of normal was higher 51.7%. This research also evaluate the relation between uterine Doppler with the fetal distress. The group of patients with fetal distress also has the rate of abnormal uterine Doppler was 86.6% while the rate of normal uterine Doppler was 13.4%. Compare with the group had the fetal non-distress, the rate of the normal waves of uterine artery Doppler was higher 71.4% than the rate of abnormal uterine Doppler, the rate of abnormal uterine of this group was only 28.6%.

Conclusion
The abnormal morphology of uterine artery Doppler or Notch sign can be predict the severity of preeclampsia for mother and it has been concluded that uterine artery Doppler nothching is good predictor for fetal distress with preeclampsia pregnancy.