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=ABSTRACT=

The Prediction of Pre-eclampsia/Fetal Growth Restriction based on Notch of Uterine Artery Doppler Velocimetry

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Objectives : The objective of this study is to evaluate the predictability of pre-eclampsia and fetal growth restriction(FGR) using the notch of uterine artery Doppler velocimetry after the second trimester of pregnancy, and to evaluate the hemodynamic changes preceding the onset of symptoms of pre-eclampsia, therefore determining the significance of the notch in uterine artery Doppler velocimetry.

Materials and methods : Between March 1996 and April 1999, in Severance Hospital, 99 pregnant women who showed notches in uterine artery Doppler velocimetry at the 24th to 32nd gestational weeks were studied. Those already manifested by pre-eclampsia and FGR were excluded. The study population were divided into two groups, women in their 24-26th gestational weeks and in their 27-32nd gestational weeks, and the prevalence of pre-eclampsia and FGR were evaluated in each group. Also, the prevalence of the mentioned diseases according to the bilaterality of the notch, and the duration to the onset of the symptoms of pre-eclampsia were compared.

Results : ① Among 42 patients who showed the notch in the 24-26th gestational weeks, 14 developed pre-eclampsia/FGR(33.3%), and among 57 in the 27-32nd gestational weeks, 17 developed the mentioned diseases(31.5%). No significant difference in prevalence rate was observed. ② In those who showed bilateral notches, 11 out of 24 cases developed pre-eclampsia/FGR(45.8%). In those with unilateral notch, 20 out of 75 cases had the disease(26.7%). The difference in the two groups were statistically significant($p<0.05$). ③ Among 42 patients who showed the notch in the 24-26th gestational weeks, 7 developed pre-eclampsia(16.7%), and among 57 in the 27-32nd gestational weeks, 17 developed pre-eclampsia(15.7%). No significant statistic difference was observed. The duration to the onset of symptoms of pre-eclampsia were 5.3 and 5.5 weeks each group.

Conclusion : The notch means early marker of hemodynamic changes preceding the onset of symptoms of pre-eclampsia. Therefore, patients who show the notch of uterine artery Doppler velocimetry in the second half of pregnancy should be considered as high risk patients for either pre-eclampsia or FGR, and especially those with bilateral notches require close observation and follow-up.

Key words : diastolic notch, pre-eclampsia, fetal growth restriction

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가⁴⁻⁶ SD mapping 3.5 MHz color flow
가 sample gate pulse
1 wall filter 100MHz sample
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1996 3 1999 4
24 가 (Table 1). 26
32 가 33.3%, 27 32
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(Fig. 2).
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