PRELIMINARY REPORT

TITLE: Vascular Endothelial Growth Factor Expression in Placentae from Pregnancies Complicated by Pre-eclampsia

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The aim of this study is to determine the expression of VEGF in placentae from pregnancies complicated by pre-eclampsia using protein assays, such as western blot and enzyme-linked immunosorbent assay(ELISA) for tissue that can measure VEGF proteins and have not been used in other previous studies. In addition, we investigate the expression of NOS in placentae from pregnancies complicated by pre-eclampsia. It may provide new clues to the role of VEGF and NO in pre-eclampsia and be of potential use in the diagnosis and treatment modalities in future.

OUTLINE OF RESEARCH

The first, we study the VEGF protein expression in placentae from pregnancies complicated by pre-eclampsia and those from normal pregnancies using western blot and ELISA. The second, we study VEGF and NOS mRNA levels using northern blot or RNAse protection assay. In addition, to investigate the correlation of VEGF tissue expression and serum levels, we assay VEGF levels in serum from pre-eclampsia and normal pregnancies using ELISA. At last, to investigate the difference in distribution of VEGF and eNOS in placenta with normal pregnancy and pre-eclampsia we perform immunohistochemistry. The study group comprises 10 patients with preeclampsia and the control group comprises 10 healthy patients.

WHAT WE HAVE DONE

This study was approved by the Institutional Review Board Baylor and Ben Taub and informed consents were obtained from all pregnant volunteers in Ben Taub Hospital. Plasma and serum samples for VEGF were collected from 21 pregnant women shortly before delivery. 11 women were preeclampsia and 10 wemen were healthy control. All aliquots of serum and plasma are stored at -70°C for later ELISA. Placentae were collected from pregnancies complicated by preeclampsia(n=9) and healthy control(n=9) immediately after delivery. Biopsies were taken from the central region of the placenta, rapidly frozen in liquid nitrogen, stored at -70°C for analysis of VEGF by Western blot, ELISA, and RPA and eNOS by Western blot and RPA. The remainder of the placentae were formalin fixed and processed for immunohistochemistry.

The method for RNA extraction for RNAse protection assay and protein extraction for Western blot using Trizol® was set up and RNA and total protein extraction from the placentae samples we collected were made. All RNA extracts are stored at -70°C for later RPA and all total protein extract are stored at -20°C.

The method for western blot was set up and now we are working on VEGF western blot with placentae samples.

THINGS LEFT TO BE DONE

After finishing Western Blot, we will set up RPA technique, the method we chose instead of Northern blot to compare mRNA VEGF and eNOS. The next step will be immunohistochemistry for VEGF expression in the placentae and serum and plasma VEGF ELISA.

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