Objective: To investigate the expression of AT1-AA in pregnant women's blood and explore their correlation with the pathogenesis of preeclampsia.

Methods: Ninety pregnant women were classified into mild preeclampsia group (n=30), severe preeclampsia group (n=30) and normal group (control group, n=30). The levels of AT1-AA and ET1 in maternal peripheral blood and umbilical cord blood were detected by ELISA, and the mRNA expression levels of AT1-AA and ET1 in placenta tissues were determined by RT-PCR.

Results:
(1) The levels of AT1-AA and ET1 in maternal peripheral blood, umbilical cord blood and placenta tissues of preeclampsia were both significantly higher than that of control. In addition, compared with mild group, the levels of AT1-AA and ET1 in severe group were significantly higher (P<0.05).
(2) There was a positive correlation between AT1-AA and ET1 levels of preeclampsia pregnant women's peripheral blood, umbilical cord blood and placenta (P<0.05).
(3) The level of AT1-AA in umbilical cord blood of preeclampsia pregnant women was positively correlated with S/D value of umbilical artery (P<0.05), and negatively correlated with the weight of the birth and the placental (P<0.05).

Conclusions: The AT1-AA in the blood of pregnant women plays an important role in promoting the generation and development of preeclampsia, by increasing the ET1 secretion.