

Placental VEGF Expression in Pregnant Secondhand Smoker

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ABSTRACT

Introduction: Secondhand smoker (SHS) carries various negative implications towards pregnancy including hypoxia due to uteroplacental insufficiency. Vascular Endothelial Growth Factor (VEGF), the most important angiogenic factor that triggers vascular endothelial cell proliferation, tubule formation and increases the microvascular permeability, is known to be oxygen-dependent. While cotinine, which has been shown to be raised in SHS, reduces blood flow to the uterus and increases the carboxyhemoglobin levels in the cord blood. Therefore, it is postulated that there is overexpression of placental VEGF among SHS and this could be due to the increased cotinine level. **Objective:** To compare the placental VEGF expression between pregnant SHS and non-secondhand smoker (non-SHS) and to correlate the level of cord blood cotinine with placental VEGF expression. **Methods:** This was a cross-sectional comparative study in Hospital Sungai Buloh involving 200 non-smoking pregnant women at term, of whom 100 were SHS and 100 were non-SHS. Those with multiple pregnancies, with body mass index (BMI) of more than 30 kg/m² or who delivered by Caesarean section were excluded. The participants' basic demographic details, delivery details, fetal outcome and placental weight were recorded. Umbilical cord blood sample was analyzed for cord blood cotinine level using Cotinine ELISA kit and immunohistochemistry test for VEGF expression evaluation by three pathologists blinded to the clinical data. VEGF expression was quantified using a visual grading system based on the intensity of staining. **Results:** The placental VEGF expression in SHS group were weak positive (n=44), moderate positive (n=38) and strong positive (n=18). On the other hand for the non-SHS group, 25 were weak positive and 75 were moderate positive. This demonstrates a significant difference of VEGF expression between SHS and non-SHS group (p<0.001). Despite cord blood cotinine level is higher in SHS group (p<0.001), the strength of positive correlation between cotinine level and VEGF expression was low (r=0.345, p<0.001). **Conclusion:** There is significantly increased placental VEGF expression in SHS. Higher cord blood cotinine level may just be one of the plausible mechanisms for the up-regulation of VEGF expression.

Induction of Labour using Foley Catheter: Traction versus No Traction – A Randomized Prospective Study at Tertiary Hospital

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ABSTRACT

Cervical ripening of an unfavorable cervix can be achieved by placement of a trans-cervical catheter. The aim of this study was to assess the effectiveness of 750 ml traction on Foley's catheter compared to no traction for labour induction. **Methodology:** It is a randomized controlled trial performed on pregnant women at 37-41 week who were admitted for induction of labour with unfavorable cervix. They were randomly assigned into two groups, Foley's with 750 ml traction and without traction. The outcome measured were change in Bishop Score, mode of delivery, risk of maternal and fetal infection, pain score and successful VBAC. **Result:** Total of 160 women were randomized into traction group (n=80) and control group (n=80). The mean change in Bishop Score was similar in both groups. Traction group had significantly (p=0.006) higher number of vaginal delivery (70%) compared to control group. The rate of successful VBAC was also significantly (p= 0.001) higher in the traction group. Participants were comfortable using both methods with low pain score. There was no difference in the neonatal outcome and risk of maternal infection in both groups. **Conclusion:** Application of traction did result in more successful vaginal delivery and vaginal birth after Caesarean section.

KEY WORDS:

Cervical ripening, Foley's catheter, labour induction, previous scar, VBAC