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**Title:** Circulating and exhaled vascular endothelial growth factor in asthmatic pregnancy

Dr. Andras 20867 Bikov andras.bikov@gmail.com MD [1], Dr. Aniko 20868 Bohacs drbohacs@freemail.hu MD [1], Dr. Noemi 20869 Eszes noemi.eszes@gmail.com MD [1], Ms. Zsoka 20870 Weiszhar weiszharzs@gmail.com [1], Dr. Istvan 20871 Ivancso ivancso.isti@gmail.com MD [1], Dr. Veronika 20872 Muller mulver@pulm.sote.hu MD [1], Prof. Janos 20873 Rigo rigo.janos@noi1.sote.hu MD [2], Prof. Gyorgy 20874 Losonczy losonczy@pulm.sote.hu MD [1], Dr. Lilla 20875 Tamasi tamasi@pulm.sote.hu MD [1] and Prof. Ildiko 20876 Horvath hildiko@elet2.sote.hu MD [1]. [1] Department of Pulmonology, Semmelweis University, Budapest, Hungary and [2] First Department of Gynecology and Obstetrics, Semmelweis University, Budapest, Hungary .

**Body:** Introduction: It is well known that vascular endothelial growth factor (VEGF) plays an important role in asthma and pathological pregnancies. However, VEGF has not been investigated in pregnant asthmatics before. Aims: In this study we aimed to analyse systemic and airway levels of VEGF in asthmatic pregnant individuals by measuring this mediator in plasma and exhaled breath condensate (EBC) samples, respectively. Methods: 32 asthmatic pregnant, 29 asthmatic non-pregnant, 28 healthy pregnant and 22 healthy non-pregnant women were enrolled. Plasma VEGF was measured in all subjects and additional EBC was collected in 57 volunteers for VEGF measurements. Furthermore, plasma soluble VEGF receptor, the fms-like tyrosine kinase 1 (sFlt1) was also determined in 86 subjects. Results: Significant differences were observed in plasma VEGF and sFlt1 among the four groups ($p<0.001$). Plasma VEGF levels were decreased, while sFlt1 levels were increased in both pregnant groups ($p<0.01$); however, no difference was found when the asthmatic groups were compared to the respective non-asthmatic groups ($p>0.05$). In the majority of the EBC samples VEGF levels were undetectable. Neither VEGF nor sFlt1 correlated with clinical variables (lung function, exhaled NO, asthma control, neonatal birth weight) in any group. Conclusions: Our results suggest that concomitant asthma does not affect plasma VEGF during pregnancy. The study was supported by Hungarian Respiratory Society and Hungarian National Research Fund (OTKA 68808).