

**430** Leucocyte filterabilities in obstetrical & gynecological states of frequent occurrence of thrombosis. Y. Marumoto, M. Kawabata, \*H. Kobayashi, \*T. Murata and \*M. Kaibara. Dept. Obst. & Gynec., Doai Memorial Hosp., Tokyo. \*Dept. Obst. & Gynec., Ichihara Hosp., Teikyo Univ. School of Med., Chiba.

It has been reported that leucocyte behavior ie, adhesion on endothelium or release of neutrophil elastase have an effect on whole blood viscosity or growth of thrombosis. In this studies, leucocyte filterabilities were measured as clogging rate (CR) with St. George's Filtrometer in some states of frequent occurrence of thrombosis. Leucocyte suspensions (1000/mm<sup>3</sup> PBS) were prepared according to published methods by Mikita et al. In normal pregnancies, CR had no significant differences compared with non-pregnant control (6.17±0.81/ml). In immediately after delivery, CR (8.57±1.34/ml) was significantly higher than in normal pregnancy, between 36 and 41 weeks gestation (6.81±1.16/ml). CR in PIH was higher level but it was not shown significant difference. After gynecological operation of benign tumors, CR (6.81±0.75/ml) was significantly increased compared with before operative subject (5.73±0.40/ml). In ovarian cancer on advanced stage, CR was significantly higher compared with control subject.

**431** IN VITRO effects of hypoxia on the deformability of erythrocytes. S. Kato, K. Yamamoto, A. Yasuda, M. Kitao, Dept. Obst. and Gynec., Shimane Med. Univ., Shimane.

We have previously found that fetal distress associated with hypoxia at delivery elicits an increase in the deformability of fetal erythrocytes at the 42th congress. In the present experiments, we investigated whether hypoxia increases the deformability of human erythrocyte in vitro.

Adult and fetal blood were collected and relationships among deformability indexes of the human erythrocytes, levels of erythrocyte adenosine triphosphate (ATP), 2,3-diphosphoglycerate (2,3-DPG), pH factor and levels of PO<sub>2</sub> and PCO<sub>2</sub> in the blood were estimated under hypoxia (PO<sub>2</sub>: 6-34 mmHg) in vitro. The deformability indexes negatively correlated with PO<sub>2</sub> (r=-0.81), and positively correlated with levels of PCO<sub>2</sub> and ATP (r=0.72, r=0.59, respectively), but no correlation with levels of 2,3-DPG was found.

These results indicate that in vitro hypoxia increases erythrocyte deformability in humans, suggesting that the increased deformability of fetal erythrocytes at delivery may result from a human homeostasis to maintain levels of tissue PO<sub>2</sub> in fetus under hypoxic conditions in hypoxia.

**432** Involvement of thrombin and cyclic AMP in the regulation of coagulation and fibrinolysis system of human trophoblasts. M. Asami\*, K. Takagi, M. Nakabayashi, K. Hashiguchi\*, Y. Takeda\*, S. Sakamoto. Maternal & Perinatal Ctr., Dept. of OB/GYN\*, Tokyo Women's Medical College, Tokyo.

To elucidate functional similarity between trophoblasts and vascular endothelial cells, human trophoblasts were challenged either with thrombin or 8-bromo-CAMP in vitro. Cytotrophoblasts were obtained from term placenta by DNase-trypsin digestion, purified by Percoll discontinuous gradient centrifugation (H.J. Kliman et al., Endocrinol., 1986) and cultured for 72h in DMEM enriched with 20% FBS prior to the experiments. After 6h of culture in the presence of either thrombin or 8-bromo-CAMP, plasminogen activator inhibitor-1 (PAI-1) and progesterone released into media and cellular thrombomodulin(TM) were measured with specific ELISAs. The cellular TM content decreased by 37%, whereas PAI-1 release increased by 50% in response to thrombin (10 units/ml). In contrast, 8-bromo-CAMP(1.5mM) caused 1.5-fold increase in cellular TM content and progesterone release without any effect on PAI-1 release.

These results suggest that human trophoblasts not only share the proteins involved in coagulation and fibrinolysis system of endothelial cells but also have the common regulation mechanisms for these molecules.