106 Isolation efficacy of hydrophobic chromatography for the purification of early pregnancy factor. K. Sueoka, Y. Kuroda, Y. Konishi, J. Kobayashi, M. Nakano. Dept. of Obst. and Gynecol. Saiseikai Kanagawaken Hospital. Kanagawa

The purification of early pregnancy factor (EPF) has not been demonstrated so far by the reason of the unstability of assay, rare contained specimen, and denature of EPF with the biochemical treatment. The EPF purification using the hydrophobic chromatography was determined as an effective procedure without rosette inhibition activity.

Two types of column; Phenyl Superose fast protein liquid chromatography (FPLC) and Phenyl Superose CL-4B chromatography were considered in two different elution protocols; Consecutive gradient and stepwise elution with 1M to 0M $(NH_4)_2SO_4$. The partial characterized isolated EPF (Development of Preimplantation Embryos and Their Environment: 317-329, 1989) was applied for the material.

1) gradient elution with Phenyl Superose FPLC; EPF was broadly fractionated on the 0.5M $(NH_4)_2SO_4$ gradient.
2) Stepwise elution (1M→0.5M→0M) with Phenyl Superose FPLC; EPF activity was detected on the step of 0.5M $(NH_4)_2SO_4$.
3) Stepwise elution Phenyl Superose CL-4B; 97% of the contaminated proteins were removed by the open column procedure.

The hydrophobic chromatography was considered to be greatly effective to purify EPF without inactivation of the rosette inhibition.

107 Regulatory factor of endometrial and decidual epidermal growth factor receptors. N.Futamura, T.Yamamoto, M.Hamaguchi, Y.Sugiyama, Dept.Obst.and Gynec.,Mie Univ. Sch.Med.,Mie.

It is well known that endometrial decidualization is essential for implantation and maintenance of pregnancy. Although EGF regulates the processes of decidualization through the specific receptor-mediated pathways, the regulatory mechanism(s) of EGF receptor itself remains to be elucidated. In this communication, therefore, we demonstrate that protein kinase C is involved in the regulation of endometrial and decidual EGF receptor.

Materials and Methods: ① in vitro decidualization: Stromal cells were separated from endometrial tissues by enzyme digestion and let them transform to decidual cells in the presence of progesterone in vitro. ②Decidual cells culture: Decidual cells were separated from first trimester decidual tissues by enzyme digestion and Percoll gradient centrifugation. ③EGF receptors analysis:Endometrial and decidual EGF receptors were analyzed by Scatchard plots.

Result: Scatchard analysis revealed each endometrial stromal cell had about 14,000 of EGF receptors on the cell surface. After decidualization, the number of EGF receptors increased to about 5.4 times. Treatment of decidual cells with PMA induced a dose-dependent decrease of EGF receptors (IC_{50}=10nM). On the other hand,treatment of the cells with dibutyryl cAMP or 8-bromo cGMP induced no significant change in EGF receptors.

The results, therefore, suggest that protein kinase C plays an important role in the regulation of endometrial and decidual EGF receptor.

108 The sonographic findings of early spontaneous abortuses with chromosome aberrations. T.Kasai, K.Ogawa, S.Tamechika, K.Shiota, K.Ando, K.Takahashi, H.Shiotsu, T. Miyakawa, T.Kojima, M.Izuta, K.Sato, Dept. Obst. and, Gynec., Toranomon, Hosp., Tokyo.

Ultrasonographic findings in spontaneous abortions were studied and discusses with special reference to chromosomally abnormal abortuses. Fetal heart movement (FHM), crown-rump length (CRL) and diameter of gestational sac (GS) were assessed in 114 cases of spontaneous abortion at least twice during of 5-8 week of pregnancy. Fetal chromosome were studied in all of these cases. The 114 cases were divided into two groups ; group A : 53 abortuses without FHM, group B : 61 abortuses with FHM. There were compared with 303 cases (group C) of continuing pregnancy in Toranomon Hospital. Chromsomally abnormal abortuses accounted for 66% of the 114 cases, and the incidence was almost same in group A and B. Autosomal trisomies (especially 16, 15, 22) and 45, XO accounted for more than 70% of all anomalies. Most of semilethal abnomalities (45, XO, 18, 21trisomy) were found in group B, and most of lethal abnomalities (16 trisomy, tetraploidy) except triploidy were found in group A. FHM in tripoidy was observed in early pregnancy, but disappeared already at 8 weeks of gestation. In those whose pregnancies eventually ended in miscarriage, GS, CRL, FHB were smaller than in group C. These results suggested that suppression of fetal growth began even before manifestation of clinical signs of miscarriage.