147 An experimental study for anticancer agent sensitivity test in human endometrial cancer cell-line by BrdU/DNA and Ki-67/DNA assay using flow cytometry. H.Yabushita,K.Honda,N.Ueno,M.Noguchi,M.Ishihara,M.Kobayashi*, Dept.Obst.and Gynec.,Aichi Med.Univ.,Aichi,*Life Information Analysis Center,Aichi.

To assess the lethal and kinetic effects of CDDP, ADM and MTX on human endometrial cancer cell-line (AMEC-1), we examined by flow cytometry the proportion of cells in proliferating cycle (PC) with the monoclonal antibody Ki-67 and also in S phase after incorporation of bromodeoxyuridine (BrdU) with monoclonal antibody to BrdU. After treatment with CDDP, an increase of the population of cells in PC, S phase was found. After treatment with ADM, an increase of cell population in S phase, G_2/M phase and PC was found. After treatment of MTX, an increase of cell population in early S phase was found. These changes of cell kinetics after treatment with anticancer agents in AMEC-1 cells were correlated to the lethal effect of them examined according to growth inhibition test.

On the bases of these results, it was suggested that BrdU/DNA and Ki-67/DNA double staining method might be applied to anticancer agent sensitivity test.

148 Effect of Epidermal growth factor(EGF) on functional maturation of fetal hepatocytes in rats. Y.Ohgami,T.Yano,O.Tsutsumi,Y.Kuwabara,M.Mizuno Dept.Obst.and Gyne.Tokyo Univ.Sch.of Med.,Tokyo.

We studied the change in the energy-metabolism enzyme activities of fetal liver to elucidate the biochemical differentiation of the fetus. Pregnant Wistar rats were sacrificed on day 15,18 and 21 of the pregnancy and fetal liver was obtained. We studied the change of 4 enzymes concerned with the hepatic carbohydrate metabolism(MDH,LDH,G6PD and Hexokinase) during the late fetal stage. There was seen to occur 3-folds increase in MDH (0.050μmol/min/mg of wet weight to 0.139),1.5-fold in LDH(0.091 to 0.125) from day 15 to 21 at which time the adult level was approximated. However, the peaks of G6PD and Hexokinase occurred at day 18,then fell at day 21, which lower than day 15. In primary cultured hepatocytes of fetal rats on day 18 and 21,EGF and insulin induced LDH activity. The 2 hormones had additive effects in induction of LDH,whereas on day 15, there was no effect of them. Half maximum induction was observed with 10ng/ml of EGF.
In scatchared analysis of the EGF receptor on day 18 compared with that of the adult,fetal hepatocytes had only one kind of receptor($Kd=3.5\times10^{-12}$),and the adult had two ($Kd=3.5\times10^{-12}$,$Kd=40\times10^{-12}$). The number of the binding sites of the fetus was twice as many as that of the adult.

149 Studies on the regulatory mechanism of IGF-I circulating forms in fetal life. A.Kobayashi, Y.Ueda, T.Funakoshi, A.Yamasaki, H.Morikawa, M.Mochizuki, Dept. Obst. and Gynec., Kobe Univ. Sch. Med., Hyogo.

This study aimed to clarify the regulatory mechanism of IGF-I circulating forms in fetal plasma by rat in vivo and in vitro experiments. In human the changes of IGF-I circulating forms from 40K dalton to 150K dalton complexes were observed in fetal life. However, in rat, they were not observed in fetal stage, but in infantile stage, and daily administration of GH in early infantile stage induced the early change of them. IGF-I 150K dalton complexes existed in intact adult rats were not observed after hypophysectomy, but they were restored by GH administration for 7 days. On the other hand, in primary culture of rat hepatocytes, IGF-I 150K dalton complexes were not existed in medium instead of the increase of medium IGF-I concentration and moreover 150K unsaturated somatomedin binding protein or its subfractions could not be detected, after the addition of GH into the medium. From these result, it is concluded that GH possesses the inductive effects on the production of IGF-I 150K dalton complexes in fetus, requiring some other factors except hepatocytes and serum.