187 Circulatory changes in isolated goat fetuses with umbilical arteriovenous ECMO. N.Unno,N.Shinozuka,K.Akiba,K.Takechi,H.Kagawa,A.Nemoto,E.Ryou, Y.Kamei,M.Sakai,H.Nishina,K.Kobayashi,S.Kozuma,T.Okai,Y.Kuwabara,M.Mizuno, Dept.Obst.&Gynec., Fac.Med., Univ. Tokyo,Tokyo.

To assess the condition of extrauterine goat fetuses with arteriovenous extracorporeal membrane oxygenation (A-V ECMO) via umbilical vessels, changes in extracorporeal blood flow, blood pressure, arterial blood-gas status, oxygen delivery and oxygen consumption were examined in 19 long-term incubation experiments (incubation periods 58-236 hours). Almost all the data obtained from extrauterine fetuses were within the physiologic range of in-utero fetuses. This suggests that, with a support of ECMO circuit, extrauterine goat fetuses can survive for several days.

188 A quantitative analysis of fetal cardiac dysfunction according new standard of sonographicaly estimated.H.Kobayashi,Y.Chiba,T.Kanzaki,S.Takahashi,and M.Murakami, Dept. of Perinatology, National Cardiovascular Center, Osaka.

37 cases of fetal cardiac disease and NIHF are compared some parameters of cardiac function with 110 of normal control. The parameters are V-max, BEF, and CTAR. The 37 cases are classified into 4 groups,that are 8 structural cardiac disease with hydrops as the 1st.group, 11 hydrops without heart disease as the 2nd.,10 structural heart disease without hydrops as the 3rd., and 8 complete A-V block without hydrops as the 4th.. Instatistics, it reveals that 4 groups and control are distinguished each other by V-max and BEF,and group 4 is distinguished between control by CTAR, and group 1 and group 3 are also distinguished between hydrops by only V-max. Fetal cardiac dysfunction is reaffirmed as a status and tendency of low value of V-max (<mean-23.5cm/sec) and/or low EF(<0.64) having a potential of hydrops. In addition, it reveals quantitative compensative status of complete A-V block (group 4). 5 cases of hydrops without cardiacdisease are according to low value of V-max and/or EF, thus in this group, a new category of "secondary cardiac dysfunction"is suggested.

189 Echocardiographic assessment of fetal and neonatal systolic time intervals in normal vaginal delivery and elective Cesarean section groups. K. Makihara, T. Hata, K. Hata, M. kitao. Dept. Obst. and Gynec. Shimane Med. Univ., Shimane.

Echocardiographic assessment of fetal and neonatal systolic time intervals were conducted to evaluate the difference of circulatory changes between 40 normal vaginal delivery and 30 elective Cesarean section groups. Left pre-ejection period (LPEP), left ventricular ejection time (LVET), LPEP/LVET, right pre-ejection period (RPEP), right ventricular ejection time (RVET), RPEP/RVET, and heart rate were determined at various time points from antenatal to 120 hrs after delivery. There were no significant changes of left systolic time intervals between two groups at any various time points. However, RPEP, RVET and RPEP/RVET values were significantly higher in Cesarean section group than those in normal vaginal delivery group within 24 hrs after delivery. These results suggest that the transient pulmonary hypertension after dwlivery prolongs in elective Cesarean section group rather than in normal vaginal group.