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160 Chronological changes in gap junction formation of the rat uterine circular muscles during in vitro experiments. M.Ikeda, T.Kawarabayashi, H.Sugimori, Dept. Obstet. and Gynec., Saga Med. Sch., Saga.

In uterine smooth muscles, gap junctions are rapidly formed during parturition. To investigate the related mechanisms,in vitro gap junction formation of the rat uterine circular muscles was examined by electron microscopy,paying attention to the time-course of the experiments. Gap junctions were formed more rapidly in the myometrial strips during delivery than before its onset (day 21 of gestation). The ratio of the length of gap junction membrane to total plasma membrane was significantly greater on the incubated myometrial strips with endometrium than on those without it. Amniotic membrane had no influences on the formation of myometrial gap junctions during experiments. These results suggest that gap junction formation may be prerequisite just before delivery and the gap junction formation of the circular myometrium may be affected by the endometrial function.

161 Newly developed distance fetal monitoring system. M.Murakami, T.Tsutsui, T.Kimura, H.Takahashi, H.Kobayashi, S.Takahashi T.Kanzaki, Y.Chiba, Dept.Perinat., National Cardiovascular Center, Osaka.

We developed the new system to allow for the fetus to be monitored at home or at another places separated from the hospital. Two types of fetal monitors have been designed, one is portable (0.6 Kg), has DC power source , and is used for antepartum monitoring at home. The other is much bigger(4.6Kg), but has CTG chart printer, and is used for intrapartum simultaneous monitoring. Both fetal monitors are equipped with an IC-memory card and the special MODEM. At first, the FHR and UC data stored on the memory card, and with simple operation, stored data transmitted by telephone to the host computer of our hospital without degradation of quality. The arrival of the data is informed instantly by the portable bell's sound. Enhanced color graphics display the transmitted CTG record on the terminal computer which is connected with the host computer by Ehernetwork. We experienced the 202 NST data transfer. All data could not be differentiated from the original chart record. The process of transmission took about less than three minutes.

162 CONSTRUCTION OF HOSPITAL PERINATAL INFORMTION SYSTEM WITH COMPUTERIZED MEDICAL RECORD SYSTEM AND HOSPITAL ORDER ENTRY SYSTEM. M.Koresawa, A.Akita, M.Hattori, H.Yamashita, H.Tamura, N.takasugi, H.Kato, Dept. of Obst. and Gynec., Yamaguchi Univ. Sch. of Med., Yamaguchi.

This study shows a new total computer system for medical recording, connected to the hospital order entry system. The computerized medical record system includes 2 Local Area Networks(LAN) of personal computers; One for the outpatient clinic consists of 1 server computer and 7 terminal computers(dual CPU),and another for the inpatient clinic consists of 2 server computers and 10 terminal computers(dual CPU). Some of the medical recording in this system include patient's history, phisical findings, prenatal record, labor & delivery record and neonatal record. The new system could cover both the medical recording and order entry for patients, which would particulary be effective to provide the active informations in perinatal practice.

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