73 Observation of localization of fibronectin in the surface on human spermatozoa and its function. H. Sasaki, S. Fujimori, T. Sugano, H. Yazawa, N. Yoshimatu, K. Yanagida, K. Hoshi, A. Sato, Dept. Obst. and gynec., Fukushima Med. College, Fukushima.

Spermatozoa prepared by Percoll-swim up technique were preincubated and treated with anti-human fibronectin rabbit antibody. Then connecting secondary antibody which was labeled with colloidal gold (Auroprobe®), we observed them with backscattered electron imaging (BEI) mode of scanning electron microscopy (SEM). The localization of colloidal gold was recognized in the equatorial segment of the spermatozoa. And hamster test was inhibited by anti-fibronectin antibody. Sperm - egg fusion has reported to begin from the equatorial segment, and the recognition of the fibronectin localization in that region suggests that fibronectin on the surface of the spermatozoa is possibly related on the sperm - egg fusion.

74 The test for the sperm fertile capacity using Sperm Persistent Motility after 24 hours (SPM-24). M. Kobayashi, T. Ito, K. Shimamura, A. Narimatsu, S. Yamashita, Dept. Obst. and Gynec., Tokuyama Central Hosp., Yamaguchi.

Fertility of sperm was evaluated by SPM-24 in cases of IVF protocol. In cases with SPM-24 above 20%, particularly above 50%, cleavage rates were above 30%. But in cases with SPM-24 bellow 20%, mean cleavage rate was 3.0%. While there was no significant relationship between sperm motility, count and cleavage rate. Therefore SPM-24 seemed to be a better marker than sperm motility and count for estimation of sperm fertility. The SPM-24 of primary sterility and secondary sterility cases were 24.3 ± 3.85% and 36.9 ± 9.10% respectively. While SPM-24 of normal and habitual abortion cases was 78.3 ± 8.80%, which was significantly higher rate compared with former two data of SPM-24. But the fact was getting clear that SPM-24 was affected by medium and sperm concentration, and we are studying now about new criterion for sperm persistent motility.

75 Chymotripsin treatment enhances fertilization in in vitro fertilization, H. Saito, K. Koike, M. Maki, T. Saito, F. Sato, Y. Shiina, A. Sugiuchi, M. Hiroi, Dept. Obst. and Gynec., Yamagata Univ. Sch. Med.

We examined the effect of chymotripsin on the fertilization of the couples when zona pellucida was treated by chymotripsin. Twenty-eight couples who had no evidence of fertilization in the previous IVF treatments at least twice, were employed. In the control group, oocytes were cultured immediately after removing cumulus cells. In the chymotripsin group, oocytes were incubated in the medium containing chymotripsin at the concentration of 2 IU/ml for 30 seconds or at the concentration of 40 IU/ml for 5 seconds. Then oocytes were rinsed immediately and were inseminated with sperms. In the control group, 44 oocytes were employed and none of the oocytes were fertilized. Meanwhile in the chymotripsin group, 123 oocytes were employed and 24 oocytes (19.5%) were fertilized. Sixteen oocytes (67%) had 2 pronuclei and 8 oocytes (33%) had more than 2 pronuclei. Eleven oocytes with 2 pronuclei were transferred in 4 couples. Two patients were pregnant. One aborted and another has born a healthy baby. Considering that the control group showed no fertilization and that this treatment is easy, this method is valuable for a clinical application.