

couples from February 1980 through January 1985, in order to determine if it is possible to evaluate male fertility potential quantitatively using this bioassay. The overall penetration rate of 1083 patients was 70.9 ± 1.9 (Mean \pm S.E.), and 306 patients (28.3%) conceived subsequently.

The penetration rate of 768 patients with unknown fertility was 68.6 ± 1.4 . Of these, 460 with normal semen quality gave a penetration rate of 84.3 ± 1.2 , and 152 patients (33.0%) conceived later. There was no significant difference between the pregnant and non-pregnant groups, in terms of penetration rate. On the other hand, 308 with abnormal semen quality showed a markedly decreased penetration rate of 45.3 ± 2.4 , but 55 patients (17.9%) who achieved pregnancy without husband's treatment gave a significantly higher penetration rate (76.4 ± 4.4) than non-pregnant group (38.5 ± 2.6). Semen parameters were not different in these two groups.

Patients of proven fertility (N=315) showed rather constant penetration rates irrespective of their semen quality or subsequent fertility.

We confirmed our previous conclusion that the ZSPT using ionophore A23187 is very valuable for assessing male fertility potential, particularly when semen parameters are abnormal.

432. Sperm Recovery from Peritoneal Fluid at 270 Diagnostic Laparoscopies after Intrauterine Insemination

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Sperm recovery from peritoneal fluid is unequivocal evidence of successful sperm transport to the site of fertilization. The semen, washed by BWW medium and concentrated in 0.5 ml of Ham's F-10, were inseminated intrauterine 2 to 6 hours prior to laparoscopy. At 270 laparoscopies scheduled for the estimated day of ovulation, the peritoneal fluid (PF) and tubal washing fluid (TWF) were examined for the presence of spermatozoa.

Of 174 normozoospermic mates, the sperm recovery rate was 87.9% (PF) or 90.2% (TWF). Of 57 oligozoospermic ones, it was statistically lower (66.7% (PF), 73.3% (TWF)) than that in normozoospermic group. Of 39 asthenozoospermic mates, it was 38.2% (PF) or 92.3% (TWF). The sperm negative rate (both PF and TWF) was statistically higher in oligozoosper-

mic group (21.1%) than that in normozoospermic group (4.6%). It was 7.7% in asthenozoospermic group.

Of 129 patients who were followed up at least one year, 49 (38.0%) achieved pregnancy. The pregnancy rates were 46.1% in normozoospermic group, 32.1% in oligozoospermic one and 20.0% in asthenozoospermic one which was statistically lower. No pregnancy found in the sperm negative group.

These results indicate that peritoneal sperm recovery is useful for predicting subsequent fertility in selected patients.

433. Clinical Investigation of Tubal Function by the New-styled Transuterine Instillation

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The diagnosis of tubal disturbances in infertility has been made by Rubin's insufflation, HSG and laparoscopy as well as uterotubal lavage at laparotomy. However the results of these methods are not satisfactory in detecting tubal function. Transuterine instillation of bubbled saline solution and contrast medium with kymographic tracing using a new apparatus were performed in 218 infertile cases, and the results were compared with those of other diagnostic methods. The instrument was provided with solid-state pressure sensor instead of a bellows transducer with the advance of medical electronics, and the bubbled liquids were observed by a high resolution real-time scanner (Hitachi EUB 40) instead of by X-ray. Kymographic curves were divided into three categories, normal type (70.1%), adhesion (24.2%) and occlusion type (5.7%), and each of them was divided in turn into five, two and two sub-categories, respectively. These findings accompanied by the observation of HSG and USG were much finer than the results of other examinations up to the present.

Analysis could be performed in detail, including the observation of the passage at the intramural, isthmic and ampullary parts of both oviducts with HSG. Peritubal and perifimbrial adhesions related with endometriosis were also observed at the transfer of the liquid from uterotubal junction to the pouch of Douglas with USG. High correlation was recognized between these findings and pregnancy rate, and it proved the significance of this diagnostic method.