상을 검색하기에 적합한 것으로 알려져 있으며, 시험관아기등에서 나이가 많은 남자환자들에 있어서는 염색체의 비분리 (non-disjunction)등에 의하여 aneuloid가 생기는 비율이 높은 것으로 알려져 있다.

FISH를 실시하기 위해서 단단한 이중의 막으로 싸여져 있는 인간정자의 염색질 (chromatin)을 팽화 (decondensation)시켜야 하는데 주로 환원제인 dithiothreitol이 적합한 것으로 알려지고 있다 (Edith et al; 1991). 즉 정자핵팽화를 알맞게 하는 것이 FISH의 성공의 관건이 된다고 할수 있다.

본 연구에서는 나이가 많은 남자환자 (n=5, 40~56세)에서 염색체 비분리율이 높다고 알려져 있는 염색체 21번과 정자생성과정에서 감수분열 I기와 II기에서 문제가 되는 성염색체를 대상으로한 probe를 사용하였다. 기존의 방법을 다소 변형시켜 정자를 팽화시킨후 FISH를 실시하였으며, 한 환자 당 최소 1000개의 정자를 검사하여 aneuploid율을 산정하였다.

FISH에 의한 정자분석의 결과로는 XX disomy가 평균 0.62%, YY가 평균 1.06%, XY가 평균 1.06%로서 성염색체의 이상이 일반적으로 알려져있는 성염색체의 aneuploid 비율인 1/1100과 비교할때 높은 것으로 나타났다. 또한 일반적으로 1/800의 비율로 나타나는 염색체 21번의 aneuploid 비율은 0.76%로서 나이가 많은 사람에서 염색체비분리 비율이 높다는 것을 확인할 수 있었다.

P-12 Clinical Results of ICSI with Non-motile Sperm in ART Program

Ki-boong Oum[1,2], Jie-ohn Sohn[1], Hyun-joo Kim[1,2], Dong-hee Choi[1,2], Jung-jae Ko[1,2], Tae-ki Yoon[1,2] and Kwang-yul Cha[1,2]

[1]Infertility Medical Center, CHA General Hospital, Seoul, Korea
[2]College of Medicine, Pochon Cha University, Pochon, Korea

Objective: Intracytoplasmic sperm injection represents a major advancement in the treatment of male infertility. But in a subgroup of infertile male patients, in whom sperm motility is very low or nonexistence, ICSI results have been disappointing. One possible explanation might be that we cannot differentiate between nonmotile dying sperm and nonmotile sperm which are otherwise intact. Using an in vitro culture system and staining we were able to differentiate between these 2 types of sperm by studying membrane elasticity (softness). The aim of this study is to examine the possibility of selecting nonmotile viable sperm using this method in an ICSI program.

Design: Twenty-five infertile couples which severe male factor as indicated by no sperm motility were prospectively treated with ICSI.

Materials and Methods: Ovarian stimulation was done by conventional GnRH-a, hMG and hCG treatment, and oocytes were aspirated 36hrs after hCG injection. Sperm were obtained by ejaculation or surgically aspirated from epididymis or testis by PESA (percutaneous epididymal sperm aspiration) or TESE (testicular sperm extraction) method. The 2 types of nonmotile sperm can be differentiated by thier behavior when aspirated into a micropipette. Dead sperm with a hard membrane was aspirated into the pipette in a straight path, whereas the other type of non-

motile sperm was aspirated in a convulated path because it bends more easily. We did ICSI using soft sperm in total nonmotile cases, and all ICSI steps were done by conventional procedures.

Results: We retrieved 311 oocytes from 25 patients. Sperm was obtained by ejacultation (n= 22), PESA (n=2), TESE (n=1), and ICSI was done in 208 oocytes. The overall fertilization rate per oocytes which survived the procedure was 40.4% (80/198). The fertilization rate with normal ejaculated sperm, PESA sperm, TESE sperm were 40.6% (63/171), 69.6% (16/23), 0% (0/2), 33.3% (1/3), respectively. We could transfer 20 out of 25 cycles, and achieved 2 pregnancies (10.0%) from the cases of using PESA sperm. No pregnancy was achieved when we used ejaculated nonmotile sperm.

Conclusion: We were able to demonstrate that by using the criteria of membrane elasticity, indentification of viable sperm was possible and fertilization occurred. In addition, using ICSI, pregnancy can be achieved. Therefore, We recommend the use of softness of sperm membrane to select proper sperm for ICSI in men with problem in sperm motility.

P-13 Chromosomal Analysis in Azoospermic Infertility Patients

Sang Hee Park, Eun Jung Lee, Min Jung Hong, Eun Hye Im, In Pyung Kwak, Sook Hwan Lee, Chan Park, Hyun Joo Kim and Kwang Yul Cha

Dept. OB/GYN, Urology and Human Genetics Lab. of Infertility Medical Center, CHA General Hospital, College of Medicine, Pochon CHA University

These days, male factor infertility is markedly increasing compare to last decade. This study was undertaken to analyze chromosomal abnormalities in azoospermic infertility patients. One hundread eighty azoospermic patients referred from ongoing infertility workup couples were diagnosed by semen analysis, endocrinological evalution and urological test including physical examination.

Cytogenetic studies using GTG banding on azoospermic patients revealed as followed; forty two percent of these azoospermic patients (76/180) had abnormal karyotypes. Eighty four percent of them (64/76) was a Klinefelter syndrome, and 6.6 percent (5/76) was a 46,XX male karyotype, 2.6 percent (2/76) was a mosaic 45,X/46,XY.

Structural anomalies involving Y chromosome were one case of del(Y) and one reciprocal translocation t(Y;8). And there were one autosomal translocation t(12;18) and two pericentric inversions of chromosome 9.

Further studies should be addressed on candidate gene DAZ on Y chromosome.