

비해 높은 결과를 나타냈으나 통계적 유의성은 나타나지 않았다. 한편 r-FSH를 사용한 군에 비해 Combo 방법을 사용한 군이 다소 높은 착상률과 임신률을 나타내었으나 회수된 난자 중 성숙된 난자 (MII)가 차지하는 비율은 r-FSH를 사용한 군에서 보다 높은 비율을 나타냈다.

**결론:** 이상의 연구결과를 통해 GnRH antagonist의 사용이 착상률과 임신률 등에서 다소 낮은 결과를 나타내었으나 통계적인 차이는 없었으며 ovarian stimulation 기간의 단축 및 gonadotropin 소모량의 감소 등 시술과정의 편리함과 간편함에서는 GnRH antagonist의 사용이 유리한 것으로 나타났다. 따라서 환자에 따라 적절하게 GnRH antagonist 또는 agonist를 선택하여 사용하는 것이 바람직하겠다. 또한 r-FSH 사용시 Combo에 의한 과배란유도에 비해 다소 낮은 임신률과 착상률을 나타내었으나 성숙된 난자가 차지하는 비율이 높게 나온 것으로 보아 향후 추가적인 연구비교가 필요하리라 생각된다.

## O-7 Apoptosis in Maternal-fetal Interface May Affect the Fetal Survival During Early Pregnancy

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**Objectives:** Apoptosis, programmed cell death, is a concept of natural turnover of cells necessary for proper maintenance of a healthy organisms and is controlled by multiple signaling and effector pathways that mediate active responses to external growth, survival or death factors. Recent studies demonstrated apoptosis occurs in the reproductive organs of several mammals including human. But, abnormal apoptosis pathway can results in pathological process. In this study, to investigate a role of apoptosis at the maternal-fetal interface, we examined the apoptotic cells at the maternal-fetal interface in normal and recurrent pregnancy loss.

**Materials and Methods:** Apoptotic cell detection at maternal-fetal interface in normal and recurrent pregnancy loss by TUNEL assay. Apoptotic cell staining was performed in formalin-fixed, paraffin-embedded chorionic villi and decidual tissue collected from five normal women and five aborters who suffered recurrent pregnancy loss during the first trimester by direct immunoperoxidase detection of digoxigenin-labelled genomic DNA (Apop Tag Kit, Intergen). Apoptotic index was calculated by the percentage of positive cells per total number of cells.

**Results:** Apoptosis occurred at the maternal-fetal interface both normal and missed abortion during first trimester pregnancy. However, the incidence of apoptosis in syncytiotrophoblast and cytotrophoblast of chorionic villi and decidual stroma is significantly higher in recurrent pregnancy loss group than in normal pregnancy group ( $p < 0.05$ ).

**Conclusions:** This study showed that apoptosis occurs in maternal-fetal interface in natural course and thus we concluded that apoptosis in the maternal-fetal interface during early pregnancy might play a pivotal role in maintenance of successful pregnancy. The different incidence of apoptosis between therapeutic

abortion and recurrent abortion can explain the pathological process of early fetal loss.

## **O-8** Efficacy of Fluorescence in situ Hybridization (FISH) in Preimplantation Genetic Diagnosis (PGD) of Translocation Carriers

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**Objective:** FISH was introduced and shown to an effective method for the diagnosis of structural chromosomal aberrations. This study was performed to evaluate the reliability of PGD with FISH in reciprocal or Robertsonian translocation carriers.

**Materials and Methods:** Forty-one cycles of PGD for translocation carriers were performed from January to November 2001. Thirt-six cycles of 27 couples were reciprocal translocation carriers. Five cycles of 5 couples were Robertsonian translocation carriers. A total of 841 oocytes was collected, and 597 oocytes were fertilized by ICSI. One blastomere with a distinct nucleus was biopsied in 518 embryos. The appropriate probes of each cycle were hybridized overnight and FISH signals were detected.

**Results:** The successful biopsies without any complication were accomplished in 99.2% (514/518), and successful diagnosis rate of FISH was 95.7% (492/514). Embryos with normal or balanced FISH signals were replaced in 37 cycles (90.2% of started cycles), and 8 (19.5% per cycle, 28.6% per couple) ongoing pregnancies were achieved. At present, 4 healthy babies were delivered and 4 ongoing conceptions were confirmed their normal or balanced karyotype by amniocentesis.

**Conclusions:** These results show that the efficacy of FISH in PGD of translocation carriers was 95.7%. The results of FISH confirmed by amniocentesis (100%, 8/8). Therefore FISH can be a reliable method of PGD for translocation carriers. And our facility of the PGD with FISH provides the great possibility of a child with structurally normal or balanced karyotype for the complicated couples.