

## 0-9(임상) 성선호르몬 및 GnRH agonist 동시 중단에 의한 Coasting이 임신율과 난소과자극증후군의 예방에 미치는 효과

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**Background & Objectives:** 난소과자극증후군 (OHSS)은 과배란유도 시 1~10%의 빈도로 동반되는 의인성 합병증으로 이를 예방하기 위한 많은 방법들이 시도되고 있으며, 최근 성선호르몬 투여를 일시 중단하는 coasting 방법이 임신결과에는 영향을 미치지 않으면서 OHSS를 효과적으로 감소시키거나 예방할 수 있는 방법으로 주목받고 있다. 그러나 coasting 기간이 길수록 체외수정술의 임신율은 감소하게 되는데, 대부분 연구에서 coasting 기간은 평균 3~4일 정도이다. 본 연구는 성선호르몬과 GnRH agonist의 동시 중단에 의한 1~2일간의 단기 coasting이 임신율과 난소과자극증후군의 예방에 미치는 효과를 보고하고자 한다.

**Method:** 체외수정술을 위한 과배란유도 동안 coasting을 시행한 37명을 대상으로 하였다. 선도 난포의 직경이 15 mm 이상이며, 혈중 E2 농도가 4,000 pg/ml 이상이면서 난포 수가 20개 이상일 때 성선호르몬과 GnRH agonist 투여 모두를 중단함으로써 coasting을 시작하였다. 혈중 E2 농도와 초음파 하 난포의 상태에 따라 coasting을 1일 또는 2일 동안 하였다.

**Results:** Coasting 시작 시 혈중 E2 농도는 평균 6,993 pg/ml였으나 hCG 주사 당일 3,396 pg/ml로 감소하였다. Coasting의 평균 기간은 1.6일였으며, 채취된 평균 난자 수와 수정율은 각각 15.7개와 70.0%였다. 26명 (70.3%)은 1일 coasting하였고, 11명 (29.7%)은 2일간 coasting하였다. Coasting 후 혈청 E2 농도가 1일 coasting 군에서 평균 43% 감소하였으며, 2일 coasting 군에서는 coasting 첫날에 15%, 둘째 날에 81%로 급감하였다. 총 37명 가운데 15명이 임신되어 임신율 40.6%, 착상률 15.2%이었으며, coasting 기간에 따른 임신율은 각각 42.3%, 36.4%로 비슷하였다. Coasting 후 복수천자를 요한 중증의 OHSS는 1명도 없었으며, 3명에서 경증의 OHSS가 관찰되었다.

**Conclusions:** 성선호르몬과 GnRH agonist의 동시 중단은 coasting기간을 2일 이내로 단축시킴으로써 임신율에는 전혀 영향을 미치지 않으면서 OHSS를 예방 또는 감소시킬 수 있는 효과적인 방법인 것으로 사료된다.

## 0-10(임상) Early Cleavage of Human Embryos: an Efficient Parameter for High Pregnancy Rates

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**Background & Objectives:** Newly rising interest of the human assisted reproductive technology (ART)

program in the recent years has been the selection of the best quality embryos to improve the pregnancy rates by transferring only one or two embryos for the least multiple pregnancies. Among the several researches which had been applied to the selection parameters of the best quality embryos, early cleaved embryos can be used as a good parameter for this selection process. In this study, we therefore prove early cleavage as the parameter to select the best-quality embryos by comparing the pregnancy rates when early cleaved embryos and non-early cleaved embryos were transferred.

**Method:** This study had been performed on 863 cycles in which 5 or more oocytes were retrieved; 448 cases (51.9%) of normal IVF cases and 415 cases (48.1%) of ICSI, in one of our two ART program laboratories from August 2005 to July 2006. Average age of female patients who had average of  $1.8 \pm 1.24$  cycles for the control group (CG: no cleavage checked) and  $1.7 \pm 1.17$  cycles for the observed group (OG: cleavage checked) with  $13.8 \pm 7.18$  (CG) and  $13.6 \pm 6.76$  (OG) aspirated oocytes per cycle in the study was  $34.0 \pm 3.93$  (CG) and  $34.1 \pm 3.98$  (OG) years old. On average,  $3.6 \pm 0.68$  (CG) and  $3.6 \pm 0.66$  (OG) embryos were transferred. First, the early cleavage of embryos had been determined after 24 hours of injection and 25 hours of insemination. Then, they were transferred after being cultured separately from the non-early cleaved embryos.

**Results:** In total of 863 cases, 184 cases of 423 control group cases (43.5%) were successfully conceived while only 188 cases of 440 cleavage-checked cases (42.7 %) did. However, the total pregnancy rates of cleavage-checked group was 25.7% (52 of 202 cases) for non-early cleaved embryos, 41.8% (41 of 98 cases) for 1-cleaved group, 64.8% (46 of 71 cases) for 2-cleaved group, and 71.0% (49 of 69 cases) for 3 or more-cleaved group ( $p < 0.05$ ), thus showing close correlation between the early cleavage rates and the pregnancy rates. The implantation rates of the cleavage checked group (14.0%) were a little lower, but not too significantly different from that of the control group (15.2%).

**Conclusions:** Based on the above results, the selection of early cleaved embryos through early cleavage check proved not only to be an useful parameter to achieve high pregnancy rates, but also to lower the chances of multiple pregnancies by transferring the best embryos and avoiding selective abortion, which reduces the level of discomfort experienced by the patients.

## 0-11(임상) Addition of Melatonin into Maturation Medium May Improve the Human Immature Oocyte Program

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**Background & Objectives:** The development of collection techniques for immature oocyte combined with novel culture technique, opens new possibilities for assisted reproductive technology. Moreover, women