

## P-13 Fluoromicroscopic Assessment of Mitochondria Function in Bovine Spermatozoa

Sae Young Park, Young Chai Chung\*, Chang Keun Kim\*,  
Eun Young Kim, Hwa Kyung Nam, Keum Sil Lee,  
San Hyun Yoon\*\*, Sepill Park and Jin Ho Lim\*\*

*Maria Infertility Medical Institute (마리아기초의학연구소),  
\*Chung Ang University, \*\*Maria Infertility Clinic, Seoul*

This experiment was to investigate the variation on mitochondrial function of frozen-thawed Hanwoo bull semen individually by staining using rhodamine123 (R123) and predict their sperm fertility according to mitochondrial function. R123 fluorescent labelling of spermatozoal midpiece was used as a monitor of sperm mitochondrial function. For frozen-thawed semen, 8 bull numbers were selected by their developmental capacity in previous study (Good-4, Poor-4). Individual sperm were stained for 30 min in Ca<sup>2</sup>-free Sperm-TALP solution containing 5 µg/ml R123 at 0 h, 6 h, 12 h and 24 h after thawing, examined their fluorescent intensity stained at midpiece under an epifluorescence microscope using 495 nm excitation filter (x1000). Through the two replication, fluorescent frequency was variable in different bull number and remarkably reduced as time goes by culture. In the predicted good groups, high fluorescent frequencies (0 h; 57.9~70.3%, 6 h; 27.0~52.6%, 12 h; 14.9~29.0%, 24 h; 6.1~14.5%) were showed while there were against patterns in the poor groups (0 h; 57.1~66.4%, 6 h; 22.6~50.5%, 12 h; 8.7~21.6%, 24 h; 1.5~11.7%). However, one bull number in each of the separated quality groups indicated result which is not coincide with the prediction (Good - 1/4, Poor - 1/4). These results demonstrated that there are correlation between fluorescent frequency of frozen-thawed Hanwoo bull semen and their developmental capacity and that this technique can be used as a criterion to predict the sperm fertility.

## P-14 비폐쇄성 무정자증 환자에서 ROSI를 적용한 68례에 대한 보조생식술의 결과

미즈메디(영동제일)병원 불임의학연구소

전일경 · 임유진 · 이동률 · 전종식 · 심현남 · 조정현 · 노성일 · 윤현수

남성불임환자의 약 10~15%를 차지하는 비폐쇄성 무정자증 불임환자는 여러 원인에 의해 고환내에서 정원세포로부터의 감수분열과정이나 정자로의 분화과정이 정지되어 정자를 형성하지 못한다. 이들 환자의 고환에서도 국부적으로는 정자가 형성되기 때문에 multiple-testicular sperm extraction (m-TESE) 방법으로 정자를 얻거나, 정자를 얻을 수 없는 환자에서는 ROSI (round spermatid injection, 원형 정세포 난자내 주입술)와 ELSI (elongated spermatid injection)를 시행하여 수정시킨 후 정상적인 임신과 출산이 가능하다. 그러나, ICSI program의 경우에 비해서는 그 수정율과 임신율은 현저히 떨어진다. 본 연구에서는 1996년 1월 1일부터 1999년 9월 30일까지 미즈메디(영동제일)병원에서 시술한 총 68례의 ELSI/ROSI