

것으로 사료된다.

## P-15 Does it Need to Adjust Maternal Serum Markers for Down's Syndrome in Twin Pregnancies after Conventional IVF or ICSI?

Song IO<sup>1</sup>, Cha SW<sup>1</sup>, Shin JS<sup>2</sup>, Han JY<sup>2</sup>, Kang IS<sup>1</sup>, Koong MK<sup>1</sup>

<sup>1</sup>Division of Reproductive Endocrinology and Infertility, <sup>2</sup>Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Samsung Cheil Hospital, School of Medicine, Sungkyunkwan University, Seoul

**Background & Objectives:** Maternal serum triple marker screening has been reported to differ between spontaneous and IVF singleton pregnancies. Because in IVF singleton pregnancies serum hCG is usually higher, and alpha-fetoprotein (AFP) is equal or lower than in spontaneous singleton pregnancies, this results in higher false positive rate in Down's syndrome screening. In a recent study, it was reported that in singleton pregnancies initiated by ICSI the serum AFP levels were significantly lower in spontaneous or conventional IVF pregnancies. However, there are scanty data in serum screening for Down's syndrome in IVF twin pregnancy although multiple pregnancies are more common in IVF pregnancies than in spontaneous pregnancies. Our goal was to compare the serum levels of AFP, unconjugated estriol (uE3) and hCG and to evaluate the effects of the number of embryos transfer between spontaneous and IVF twin pregnancies resulting from either conventional IVF or ICSI.

**Method:** The study population consisted of conventional IVF twin (n=106), ICSI twin (n=142), and spontaneous (n=436, control) twin pregnancies between 2001 and 2004. All pregnancies in this study were known to have normal outcome. Maternal serum samples were collected between 14~18 gestational weeks. Level of AFP, uE3 and hCG were measured and were expressed as multiples of the median (MoM) based on reference medians established at Samsung Cheil Hospital.

**Results:** The mean maternal age ( $31.6 \pm 2.8$  vs.  $31.6 \pm 3.0$  vs.  $32.1 \pm 2.1$ : conventional IVF vs. ICSI vs. control, respectively) and gestational weeks ( $16.0 \pm 0.5$  vs.  $16.0 \pm 0.7$  vs.  $16.1 \pm 0.2$ ) of three groups were similar. There was no different in levels of all serum markers between conventional IVF and ICSI group. The median AFP MoM for conventional IVF or ICSI group were significantly higher than that of the control group (2.40 vs. 2.22 vs. 1.98;  $p < 0.05$ ). However, the median uE3 MoM for conventional IVF or ICSI group were not different from that of the control group (1.78 vs. 1.72 vs. 1.83;  $p > 0.05$ ). Also, the median hCG MoM was not different from that of the control group (2.04 vs. 2.06 vs. 2.02;  $p > 0.05$ ). No correlation was found the marker levels according to the number of transferred embryos in conventional IVF and ICSI groups.

**Conclusions:** AFP level was higher regardless fertilization method in IVF twin pregnancy than in spontaneous twin. Therefore, our data suggested that adjustment of the level of maternal serum AFP might be necessary to reduce unnecessary anxiety and amniocentesis in IVF twin pregnancy.