

# EFFECTS OF AUTOLOGOUS PLATELET-RICH PLASMA IN WOMEN WITH POI AND POR

Jihyang Kim, Donghee Choi, Hwang Kwon, Chan Park.

*Dept. of Obstetrics, Gynecology & Reproductive Sciences, Yale School of Medicine, CHA general hospital bundang, seongnam-si, CHA general hospital bundang, seongnam-si, CHA general hospital bundang Seongnam -si.*

## Abstract Body

Jihyang Kim, MD1,2, Chan Park, M.D1, Donghee Choi, M.D1 and Hwang Kwon, MD1

(1)Fertility Center, CHA Bundang Medical Center, CHA University, Seongnam-si, Gyeonggi-do, Korea, Republic of (South),

(2)Dept. of Obstetrics, Gynecology & Reproductive Sciences, Yale School of Medicine

## Objective

As the age of women undergoing IVF increases, the most common cause of repeated implantation failure has become ovarian dysfunction. A breakthrough treatment is needed to restore decreased ovarian function, improve oocyte quality and quantity, or resume ovulation in premature ovarian insufficiency (POI). The purpose of this study was to determine the efficacy of intraovarian autologous platelet-rich plasma (ovPRP) on ovarian folliculogenesis in women with poor ovarian responder (POR) and POI

## Materials and Methods

A prospective clinical study was conducted with women diagnosed with POI (N=19) and POR (N=20). In POI patients, hormone level, ultrasound, and resume of menstruation were observed every two weeks after ovPRP. If the evidence of ovulation resumption was observed, controlled ovarian stimulation (COS) was started to get oocytes. In POR, ovPRP was done on COS start day, and the COS was performed with GnRH antagonist protocol.

## Results

The mean age of the POI patients was  $35.5 \pm 5.2$  years. The duration of amenorrhea was  $42.5 \pm 46.0$  months, the basal FSH level was  $104.7 \pm 37.5$  (IU/L), and the ovarian volume was  $1.2 \pm 0.7$  and  $1.5 \pm 1.3$  cm<sup>3</sup> for right and left ovary, respectively. The injection was successful in 68.4% (13/19) of the patients. Ovulation resumed in 92.3% (12/13), and the time to ovulation resumption was 34.5 days (10-117). Among the 12 women who resumed ovulation, the oocyte retrieval success rate was 59.4 % (19/32) in 8 patients, and 7 embryos were cryopreserved. The embryo transfer was performed on 2 patients, but they failed to conceive.

The mean age of the POR was  $40 \pm 4.6$  years. Previous failed IVF cycles were  $8.2 \pm 4.1$ . AMH at diagnosis was  $0.5 \pm 0.5$  ng/mL, and FSH was  $17.1 \pm 13.2$  IU/L. In all patients, the embryo quality score was improved after ovPRP. Nine out of 15 (60%) patients achieved pregnancy, and the live birth/ongoing pregnancy rate was 53% (8/15). The miscarriage rate was 11.1% (1/9)

## Conclusion(s):

ovPRP could be a relevant therapeutic alternative for restoring ovarian function and resumption of ovulation in POI patients. And it increases the pregnancy rate in POR by improving the quality of oocytes.