

## EFFECT OF RECOMBINANT LH SUPPLEMENTATION WHEN USING GNRH ANTAGONIST PROTOCOL IN POOR OVARIAN RESPONSE UNDERGOING IN VITRO FERTILIZATION

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### BACKGROUND AND AIMS

Poor response in ovarian stimulation is still a major problem in IVF. A variety of regimens have been proposed to improve poor responders' outcome, but results are still controversial. One of the regimens that can be used is recombinant Luteinizing Hormone (LH). LH is crucial for the development of follicular growth and oocyte maturation, especially in the management of poor ovarian responders (PORs). The purpose of this study is to analyze the effect of recombinant LH (rLH) supplementation when using gonadotrophin-releasing hormone (GnRH) antagonist protocol in PORs undergoing IVF cycles.

### METHODS

A retrospective study was done on 336 women with POR according to BOLOGNA criteria from 2013 until 2018 at Yasmin IVF Clinic, National Center General Hospital in Jakarta, Indonesia. Data were taken from medical records between 2013-2018 and were analyzed using SPSS statistics with Mann Whitney and chi square test.

### CONCLUSIONS

This study showed no statistically significant difference in numbers of oocytes retrieved per cycle initiated, fertilization rates, the numbers of embryos obtained per cycle initiated, and clinical pregnancy rates ( $P > 0.05$ )

### REFERENCES

1. Barrenetxea G, Agirregoikoa JA, Jiménez MR, de Larruzea AL, Ganzabal T, Carbonero K. Ovarian response and pregnancy outcome in poor-responder women: a randomized controlled trial on the effect of luteinizing hormone supplementation on in vitro fertilization cycles. *Fertility and sterility*. 2008;89(3):546-53.
2. König T, van der Houwen L, Overbeek A, Hendriks M, Beutler-Beemsterboer S, Kuchenbecker W, et al. Recombinant LH supplementation to a standard GnRH antagonist protocol in women of 35 years or older undergoing IVF/ICSI: a randomized controlled multicentre study. *Human Reproduction*. 2013;28(10):2804-12.

### RESULTS

336 women were grouped into 2 groups according to the stimulation, which 75,6% of them aged  $\geq 35$  years old. Most of them have primary infertility, which were 91,4%. They were then divided into two groups, 228 women in rLH supplementation group, and 108 women in the non rLH supplementation group.

	GnRH antagonist	GnRH antagonist and rLH supplementation	P
Number of oocytes retrieved	5 (1-9)	4 (1-9)	>0.05
Fertilisation rate	0.69 (0.17 – 1)	0.67 (0 – 1)	>0.05
Number of embryo transfer	2 (1-4)	2 (1-4)	>0.05
Clinical pregnancy	26.7%	25.4%	>0.05

### DISCUSSIONS

Barrenetxea *et al* found there were no differences in the number of retrieved oocytes and clinical pregnancy rate between groups with and without rLH supplementation,<sup>1</sup> in line with König *et al* who found that rLH administration demonstrated no improvements in ovarian response or implantation/pregnancy rate in patients aged  $>35$  years treated with GnRH-ant.<sup>2</sup>