Women with normal reserve and a previous bad response, since they weren't improving patients' counseling. The results are encouraging for young cycle. The findings of this study play a role in determining whether the progesterone dose reached desired levels.

Study question: Does the follicle-stimulating hormone receptor (FSHR) genotype influence the results of the ovarian stimulation treatment using corifollitropin alfa?
Summary answer: The use of corifollitropin alfa in SS genotype patients appears to be associated with the obtaining of a lower number of oocytes and MII.

What is known already: Previous studies suggest that FSH receptor polymorphism in position 680 influences the response to ovarian stimulation: patients with SS genotype perform better with urinary FSH and need a higher dose of FSH to obtain similar results to the SN and NN genotypes.

These differences could be explained by the longer half-life of urinary gonadotropins, which might compensate for the lower affinity of the receptor in SS genotype patients. Our aim was to elucidate whether corifollitropin alfa, a long-acting recombinant FSH, has the same impact with respect to FSH receptor genotypes as recombinant FSH used habitually.

Study design, size, duration: One hundred and fifty-two egg donors were included in a retrospective cohort study between September 2019 and September 2020. In 80 of them, ovarian stimulation treatment was carried out using a single dose of Elonva 150 micrograms (Group 1). In 72 of them, in addition to the 150 microgram dose of Elonva, stimulation was continued with a daily dose of Puregon 225 UI from the eighth day of controlled ovarian stimulation (Group 2).

Participants/materials, setting, methods: To genotype the 680 position of the FSH receptor, a real-time PCR for allelic discrimination was carried out using StepOnePlus™ Real-Time PCR System (Applied Biosystems™). Linear regression analysis was performed to study the differences between the groups doing a correction for the variables anti-mullerian hormone, age and BMI. The statistical analysis was made with Software Statistical Product and Service Solutions, version 20.0 (SPSS, Chicago, IL, EE.UU.).

Main results and the role of chance: Regarding the whole set of patients, the results of ovarian stimulation using corifollitropin alfa are better in egg donors with SN and NN genotypes compared to those with SS genotype. Statistically significant differences were found in the number of retrieved oocytes (15.78 versus 10.83; p = 0.007) and retrieved MII (12.34 versus 9.00; p = 0.026).

There were no statistically significant differences between both groups of genotypes (SN-NN versus SS) in terms of age (24.04 versus 26.44; p = 0.514), BMI (22.22 versus 22.83; p = 0.781), anti-mullerian hormone levels (26.40 versus 23.58; p = 0.495), antral follicle count (15.57 versus 14.97; p = 0.567) and the number of previous ovarian stimulations (2.71 versus 2.53; p = 0.812).

Studies both treatment groups separately, in Group 2, we find significant differences in the number of retrieved oocytes (17.55 versus 13.06, p = 0.012) and retrieved MII (14.25 versus 11.39; p = 0.031), between SN-NN versus SS, respectively.

On the other hand, in Group 1, we observe a trend towards statistical significance in the number of retrieved oocytes (13.83 versus 7.50, p = 0.089) and retrieved MII (10.24 versus 5.42; p = 0.120) comparing the same groups of genotypes.

Limitations, reasons for caution: The group of egg donors with the SS genotype barely represents 20% of the donors included in the study. This percentage is similar to its prevalence in the general population, so it is necessary to have a large sample size to be able to carry out studies regarding this genotype.

Wider implications of the findings: Despite the fact that corifollitropin alfa has a longer half-life, the results of SS patients do not match the rest of genotypes, so other factors must influence. Therefore, it would be advisable to genotype patients for 680 position of FSHR in order not to treat SS patients with this gonadotropin.

Trial registration number: -