# Egyptian Fertility Sterility Society

## Does prednisone improve live birth in patients with recurrent implantation failure (RIF) in IVF cycle?

## What is known already?

Previous Studies have shown that prednisone could not only suppress uterine natural Killer (NK) cells cytotoxicity and cytokines secretion in pre-implantation endometrium, but also stimulate the secretion of hCG and promote proliferation and invasion of trophoblast [1, 2]. These effects are suggesting that prednisone may have a positive considerable impact on embryo implantation and IVF outcomes.

Other prospective pilot study confirmed that prednisolone was useful in patients with at least two previous IVF failures and serum anti-ovarian antibody [3]. However, a recent retrospective cohort study demonstrated that the administration of prednisolone with low molecular weighted (LMWH) in women with RIF does not improve pregnancy outcomes [4]. Hence, the effect of prednisone in women with RIF remains controversial despite lacking of convincing evidence, prednisone is being used by more and more IVF centers and reproductive physicians all across the world.

## What is New?

A more recent prospective, multicenter, randomized, double-blind, placebo-controlled clinical trial was conducted at 8 fertility centers in China [5]. Eligible women with RIF were receiving oral pills containing either 10 mg of prednisone (n = 357) or matching placebo (n = 358) once daily from the start of endometrial preparation for frozen-thawed embryo transfer through early pregnancy after IVF or (ICSI) cycle. The setting of frozen-thawed embryo transfer cycles in this study was to eliminate the

possible detrimental effect that ovarian stimulation might have on endometrial receptivity.

This study reported that no statistically significant between-group differences in the rates of: live birth, biochemical pregnancy, implantation, clinical pregnancy and preterm delivery (Table below)

| | Prednisone n = 357 | Placebo n = 358 | Absolute difference | Relative Ratio(RR) | P |
|---|---|---|---|---|---|
| 1-Live birth **Primary Outcome** | 37.8% | 38.8% | 1.0% [95% CI, −8.1% to 6.1%] | 0.97 [95% CI, 0.81 to 1.17]] | .78 |
| 2-Biochemical pregnancy loss | 17.3% | 9.9% | 7.5% [95% CI, 0.6% to 14.3%] | 1.75[ 95% CI, 1.03 to 2.99] | .04 |
| 3-Implantation No.(%)e = S/ET | 178/419 (42.5) | 172/426 (40.4) | 2.1 (−4.5 to 8.8) | 1.05 (0.90 to 1.24) | .53 |
| 4-Clinical"US" pregnancy No. % | 161 (45.1) | 163 (45.5) | −0.4 (−7.7 to 6.9) | 0.99 (0.84 to 1.16) | .91 |
| 4- Preterm delivery | 11.8% | 5.5% | 6.3% [95% CI, 0.2%to 12.4%]; | 2.14 [95% CI, 1.00 to 4.58] | .04 |

# Implications of the findings:

Among patients with recurrent implantation failure, treatment with prednisone is not recommended as it did not improve live birth rate.

# References

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