

THE USE OF CORTICOSTEROIDS, ASPIRIN, NALOXONE, ASCORBIC ACID AND OTHER DRUGS

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It is accepted that the majority of stimulated IVF cycles are associated with a defective luteal phase, and the term luteal phase support (LPS) includes all the treatments that have been used to circumvent these abnormalities and to enhance implantation. Apart from the classic approach of supporting the luteal phase with progesterone, HCG, etc., other therapeutic regimes are applied in order to improve the pregnancy potential. Several drugs are used selectively but there is not enough evidence to make their use clinically recommended.

1) Corticosteroids

The rationale for using these drugs is related to the theoretical benefit of immunosuppression on implantation and a possible autoimmune problem in patients with repeated implantation failures. However, to date, no large randomized studies have confirmed any increase in the results obtained with the use of prednisone and other corticosteroids.

2) Aspirin (AAS)

One of aspirin's mechanisms of action is inhibition of cyclooxygenase, preventing prostaglandin synthesis by enhancing uterine activity and luteal function. Another aspect is the improvement of uterine blood flow and its positive influence on endometrial receptivity.

The use of AAS alone or in combination with prednisone has been suggested for the treatment of patients with autoimmune problems but only one metanalysis has shown an increase in pregnancy rates when used in normal IVF patients.

3) Ascorbic acid (AA)

Luteal regression is also associated with ascorbate depletion and the generation of ROS, which may interfere with the action of LH and block steroidogenesis. Nevertheless, no studies have proved a beneficial effect of AA on implantation and pregnancy of IVF patients.

4) Naloxone

It is well known that naloxone, an opioid antagonist, may increase LH pulsatility during the luteal phase. However it seems that the supraphysiological steroid levels normally reached in IVF can induce a desensitization of the opiate receptors confirming that there is no evidence to support the use of naloxone in the treatment of luteal phase of IVF cycles.

5) Future options

In the near future we will have new options which will help to respect the physiology of the processes that occur during the luteal phase.

New drugs may help in reducing uterine contractility, thereby enhancing the chances of implantation. We now have the first evidence of their safety and efficacy.