



LUTEAL PHASE SUPPORT: LESS IS MORE

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Assisted Reproductive Techniques entail a phase of controlled ovarian stimulation with the intention to cause multiple folliculogenesis. This raises sex steroid levels in the peri-ovulatory period to ten to fifteen times the physiological levels. These supra-physiological levels of sex steroids suppress the hypothalamic-pituitary-axis by negative feedback inhibition adversely impacting LH secretion in the luteal phase. The corpus luteum, unsupported by sustained LH secretion, tends to wane its secretion of progesterone, which is a necessity in supporting implantation. Exogenous hormone supplementation is therefore needed in the luteal phase to keep up a steady supply of progesterone, so implantation of a capable embryo is not hindered.

Traditionally, exogenous progesterone has been used in two different formulations through three different routes, each with its own benefits and pitfalls. The formulations are:

1. Micronized progesterone used most commonly through the vaginal route, but also through the injectable and oral routes, and occasionally through the rectal route!
 2. Dydrogesterone, a retro-progesterone, has only be used per orally.
- Clinicians and practitioners have added other hormones like estradiol valerate, human chorionic gonadotropin, gonadotropin releasing hormone agonists in the hope of getting better implantation rates. But these are rarely needed, especially not in fresh transfers as they do not add to implantation rates in routine situations, contrarily, they may cause an increase in the incidence of ovarian hyperstimulation syndrome, gastritis and patient inconvenience due to a complex treatment regime.

The rare indications for these hormones in fresh transfers are:

1. Estradiol valerate as luteal support in fresh embryo transfer cycles that were triggered with GnRH agonist.
2. hCG 1500 IU every third day as luteal phase support only in hypogonadotropic hypogonadal cycles not at risk of OHSS.

On the same note: steroids, immunotherapeutic agents, aspirin, etc. have shown to play no role in improving implantation in routine situations or even in cases of recurrent implantation failure.

Take Home Messages

- ☞ In routine fresh transfers, evidence favors support of monotherapy with any one type and route of progesterone as per patient choice.
- ☞ For frozen transfers in hormone replacement cycles, both estrogen and progesterone are needed to support implantation.
- ☞ In frozen embryo transfers that are done in natural cycles, only monotherapy with progesterone is recommended.
- ☞ The duration of support varies from five to ten weeks of gestation. Even in fully hormonally replaced cycles, the luteal support should stop at 8-10 weeks gestation.
- ☞ It's important to simplify treatments for patient comfort because complex treatments do not increase implantation.