

THE RELATIVE EFFICACY OF THREE VAGINAL PROGESTERONE DRUGS IN ATTAINING A FAVORABLE MID-LUTEAL ENDOMETRIAL ECHO PATTERN CONTROLLED OVARIAN HYPERSTIMULATION IN WOMEN 36-39

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Introduction

Endometrial thickness and echo pattern are the most commonly used markers for evaluating endometrial receptivity assessed by transvaginal ultrasound and predictors of pregnancy occurrence¹.

The presence of a triple-line (TL) endometrial echo pattern in the mid-luteal phase has been associated with lower live delivered pregnancy rates (LDPRs) following in vitro fertilization-embryo transfer (IVF-ET).

Optimizing luteal phase support to reduce TL patterns may improve outcomes, particularly in women of advanced reproductive age undergoing IVF-ET.

Objectives

1. To evaluate the relative efficacy of three vaginal progesterone (P) formulations—endometrin®, compounded P suppositories, and crinone®—in minimizing TL patterns in women aged 36–39 after controlled ovarian hyperstimulation.
2. To assess whether adding intramuscular (IM) P when a TL pattern was identified could achieve LDPRs comparable to homogeneous hyperechogenic (HH) or isoechogenic (IE) patterns.

Methods

- Retrospective analysis of women aged 36–39 undergoing IVF-ET assessing endometrial echo patterns by transvaginal sonography 3–4 days after embryo transfer and classified as HH, IE, or TL.
- P was supplemented on 1st day after oocyte retrieval: endometrin® 100 mg 3x/day, compounded suppositories 400 mg 2x/day, or crinone® gel 90 mg 2x/day. Formulation choice was determined by insurance coverage.
- If a TL pattern was observed, 100 mg IM P was added until pregnancy testing.
- Only the first IVF cycle per couple was included. Live delivered pregnancy rates were compared across groups. Statistical comparisons were performed using chi-square testing.

Results

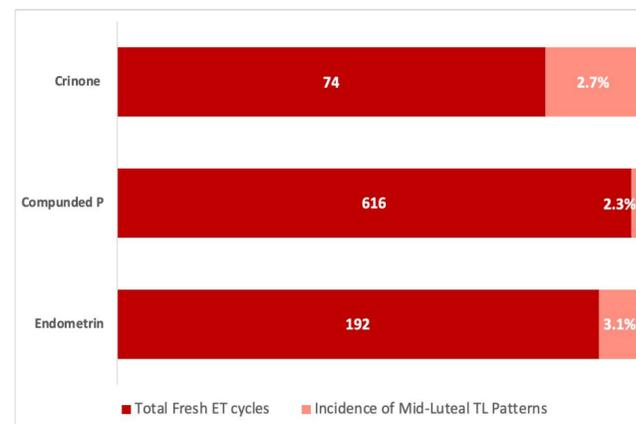


Figure 1. Comparison of Crinone, Compound Suppositories and Endometrin Groups for Total Fresh ET Cycles and Incidence of Mid-Luteal TL Patterns

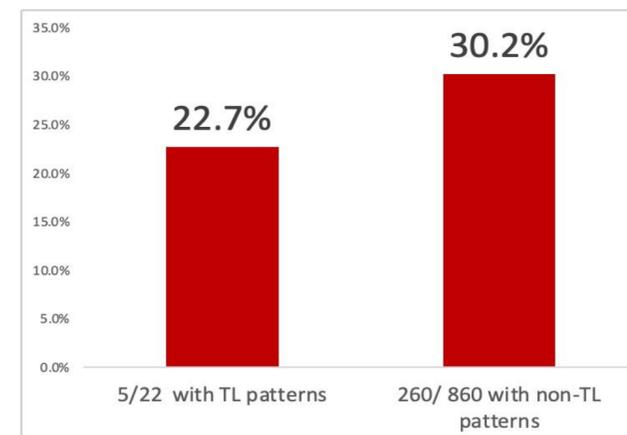


Figure 2. Comparison of Total Percentages of Live Delivered Pregnancy Rates Per Embryo Transfer for TL vs Non-TL patterns

Next Steps

- Although not statistically significant, the trend suggested lower LDPRs in TL cases despite IM P supplementation.
- The relative efficacy of endometrin®, compounded P suppositories, and crinone® in preventing TL patterns was comparable, with compounded suppositories offering an equally effective and less expensive option.
- Persistence of a TL pattern was rare but associated with lower LDPRs, even after IM P rescue.
- For patients with recurrent TL patterns, consideration may be given to alternative luteal support strategies such as frozen embryo transfer with a graduated estrogen, IM P, and vaginal P regimen.

References

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