P-595 Systematic dydrogesterone supplementation of artificial endometrial preparation cycles for frozen-thawed embryo transfer during Covid-19 pandemic: a good way to limit monitoring visits and optimize outcomes

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Study question: Does systematic dydrogesterone supplementation in artificial cycles (AC) for frozen-thawed embryo transfer (FET) during Covid-19 pandemic modify outcomes compared to prior individualized supplementation adjusted on serum progesterone (P) levels ?

Summary answer: Systematic dydrogesterone supplementation in AC for FET is associated with similar outcomes compared to prior individualized supplementation in patients with low P levels.

What is known already: In AC for FET using vaginal P for endometrial preparation, low serum P levels following P administration have been associated with decreased pregnancy and live birth rates. This deleterious effect can be overcome by addition of other routes of P administration. We obtained effective results by adding dydrogesterone to vaginal P and postponing FET by one day in patients with low P levels. However, in order to limit patient monitoring visits and to schedule better FET activity during Covid-19 pandemic, we implemented a systematic dydrogesterone supplementation without luteal P measurement in artificial FET cycles.

Study design, size, duration: This retrospective study aimed to analyse outcomes of 394 FET after 2 different protocols of artificial endometrial preparation. From September 2019 to Covid-19 lockdown on 15th March 2020, patients had serum P level measured on D1 of vaginal P administration. When P levels were < 11 ng/ml, dydrogesterone supplementation was administered and FET was postponed by one day. From May to December 2020, no P measurement was performed and dydrogesterone supplementation was systematically used.

Participants/materials, setting, methods: In our university hospital, endometrial preparation was performed using sequential administration of vaginal estradiol until endometrial thickness reached >7 mm, followed by transdermal estradiol combined with 800 mg/day vaginal micronized P started in the evening (D0). Oral dydrogesterone supplementation (30 mg/day) was started concomitantly to vaginal P in all patients during Covid-19 pandemic and only after D1 P measurement followed by one day FET postponement in patients with P levels <11 ng/ml before the lockdown.

Main results and the role of chance: During the Covid-19 pandemic, 198 FET were performed on D2, D3 or D5 of P administration with dydrogesterone supplementation depending on embryo stage at cryopreservation. Concerning the 196 FET before lockdown, 124 (63%) were performed after dydrogesterone addition from D1 onwards and postponement by one day in patients with serum P levels <11 ng/ml at D1 while 72 were performed in phase following introduction of vaginal P without dydrogesterone supplementation in patients with P >11 ng/ml. Characteristics of patients in the 2 time periods were similar for age (34.5 + 5 *vs* 34.1 + 4.8 years), endometrial thickness prior to P introduction (9.9 + 2.1 *vs* 9.9 + 2.2 mm), number of transferred embryos (1.3 + 0.5 *vs* 1.4 + 0.5) , embryo transfer stage (D2/D3/blastocyst: 8/16/76 % *vs* 3/18/79 %). No significant difference was observed between both time periods [nor between "dydrogesterone addition and postponement by 1 day" and "in phase" FET before lockdown] in terms of positive pregnancy test (39.4% *vs* 39.3% [44% *vs* 30.5%]), heartbeat activity at 8 weeks (29.3% *vs* 28% [29% *vs* 26.4%]) and ongoing pregnancy rates at 12 weeks (30.7% but truncated at end of October 2020 *vs* 25.5% [26.6% *vs* 23.6%]).

Limitations, reasons for caution: Full results of the Covid-19 period will be further provided concerning ongoing pregnancy rates as well as comparison of live birth rates and obstetrical and neonatal outcomes.

Wider implications of the findings: These results suggest that systematic dydrogesterone supplementation is as effective as individualized supplementation according to serum P levels following administration of vaginal P. This strategy enabled us to schedule easier FET and limit patient visits for monitoring while maintaining optimal results for FET in AC during the Covid-19 pandemic.

Trial registration number: not applicable