

## Prevention or treatment of pregnancy disorders with progestogens

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Over decades many studies have been done to evaluate the clinical value of progestogens in pregnancy. At present, most studies have used micronized progesterone by vaginal route and dydrogesterone orally. These limitations are dependend on the partial effect pattern of each progestogen. Progestogens with androgenic, antiandrogenic and glucocorticoid effects should not be used.

Threatened miscarriage or recurrent miscarriage:

Use of the progestogens can be either for prevention or treatment. Use of progestogens in threatened miscarriage is treatment and not prevention. In women with a history of recurrent miscarriage use of a progestogen , while the woman is without symptoms is prevention. When she comes with bleeding and pain, she needs to be treated similar as a woman with threatened miscarriage. Recent studies indicate to use a higher progestogen dose. For vaginal progesterone the maximal daily dose was 800 mg/day per vagina and for dydrogesterone 40 mg/day in two doses 12 hours apart.

Preterm labour/ preterm birth

First studies with micronized progesterone have been done with 100-200 mg / day intravaginally. However, higher doses should be considered. But there is a lack of data. Two clinical situations have so far been indicated:

1. Previous preterm labour
2. Short cervix.

This type of approach is prevention and should start around 16 week of gestation and continued until 37 week of gestation. For dydrogesterone one should use 30-40 mg/ day orally until 37 weeks of gestation. This is the preventive approach. In case labour has started and the membranes are intact, this would be treatment and can also be combined with a tocolytic agent.

Preeclampsia

There are no data for the use of progesterone. The first randomized study (prevention) was done with 30 mg dydrogesterone/day per os and was started in women with ART procedures day 1-5 after ovum pick-up and continued until 16 weeks of gestation. A highly significant difference of developing preeclampsia was found in the treatment group versus the control group. The significance was ( $p=0.001$ ). Also a retrospective studies found a significant difference when compared with the control group ( $P?0.05$ ).

Prevention until 16 weeks of gestation was found to be not optimal since later in pregnancy the treatment group compared with the control group has a similar rate of preterm labour.

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