

# *Progesterone in PTB*

**Presented by:**

# Progesterone

The name is derived from its  
function:

*pro-gestational steroidal ketone*

# ROLE OF PROGESTERONE IN PREGNANCY MAINTENANCE

- ▶ Progesterone supplementation may enhance these actions, which are likely mediated via progesterone-receptors :
- ▶ Progesterone maintains uterine quiescence .
- ▶ Progesterone prevents apoptosis in fetal membrane explants under both basal and pro-inflammatory conditions and thus may protect the membranes from preterm prelabor rupture and, in turn, preterm birth.
- ▶ Other mechanisms may also be involved (eg, alteration in the immune response).

**Although supplemental progesterone appears to be effective in preventing preterm birth in some high-risk women, it should not be seen as a panacea**

**The risk status of the patient and her biophysical presentation (eg, whether cervix is short) impact outcome. In vitro and animal research suggest that the type of progestin, formulation, dose, route of delivery, and plasma concentration (which varies among patients receiving progestins) also impact efficacy**

***SAFETY,  
SIDE EFFECTS,  
AND  
ADVERSE  
EFFECTS***

The OPPTIMUM study suggests that progesterone supplementation for preterm birth prophylaxis ***does not increase the risk of any major complication in women or offspring up to two years of age.***

**Minor side effects** are related to the route of administration, and include injection site reactions and vaginal irritation or discharge



Progesterone **can be used** to reduce the risk of spontaneous preterm birth, when indicated.

In women with a history of venous thrombosis as there is no clinical evidence that vaginal progesterone or hydroxyprogesterone caproate are associated with an increased risk of venous thrombosis.

# PROGESTERONE PREPARATIONS & DOSES

## Hydroxyprogesterone caproate

*A synthetic progestogen with minimal to no androgenic activity.*

Dose have ranged from 25 mg every five days to 1000 mg weekly, beginning as early as 16 weeks of gestation. We use a 250 mg dose, administered intramuscularly.

# Standard contraindications

hormone-sensitive cancer

liver disease

uncontrolled hypertension

Both diabetogenic and anti-diabetogenic effects have been attributed to **progesterone**; *the net effect on risk of gestational diabetes in exposed pregnancies is unclear.*

A possible increase in risk of **hypospadias in male offspring** exposed to exogenous progestins before 11 weeks of gestation has been described .

Even if confirmed, the concern is not relevant to women with prior preterm delivery since they will receive the drug **after 16 weeks** of gestation.

**Natural progesterone** is typically administered vaginally.

The advantage of vaginal progesterone is its high uterine bioavailability since uterine exposure occurs before the first pass through the liver.

It has few systemic side effects, but vaginal irritation can be bothersome and the drug needs to be administered daily. Doses of 90 to 400 mg have been effective.

Other options include  
**100 mg micronized progesterone vaginal** tablet or an 8 percent vaginal gel containing 90 mg micronized progesterone per dose.



The FDA concluded the data in the manufacturer's application **did not sufficiently support the efficacy of progesterone 8 percent gel in reducing the risk of preterm births before 33 completed weeks of gestation among women with a short cervical length, but the drug was safe in this population .**

**Oral progesterone** An oral micronized preparation of natural **progesterone** also exists, but few studies have assessed its efficacy. A daily dose of 400 mg is common although doses have varied widely. **Reported side effects, which are less than with synthetic progesterone, include sleepiness and fatigue**

***Thank You for Your Attention,***

***Any Question?***