

Study shows additional benefits of progesterone in reducing preterm birth risk

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(Medical Xpress) -- An analysis of five previous studies has uncovered additional evidence of the effectiveness of progesterone, a naturally occurring hormone, in reducing the rate of preterm birth among a high-risk category of women.

Pregnant women in this category, who have a short [cervix](#), are at increased risk of delivering early. The cervix is the part of the uterus that shortens and opens during labor for the infant to pass through. [Preterm infants](#), born three weeks or more before a full 40-week term, are at increased risk for death in the first year of life, as well as for [breathing difficulties](#), cerebral palsy, learning disabilities, blindness and deafness.

A [previous NIH study](#) had earlier indicated that [progesterone](#) was effective in reducing the preterm [birth rate](#).

The current study is a meta-analysis, a [statistical technique](#) that combines the data from several studies addressing a related research question. The study is published online in the American Journal of Obstetrics and Gynecology.

The researchers found that the treatment tested in the previous studies substantially reduced the risk of delivery in the 27th to 34th weeks of gestation. For example, progesterone reduced preterm delivery before week 28 by half. The researchers analyzed studies testing vaginal progesterone formulations, in doses ranging from 90 milligrams to 200 milligrams per day.

The researchers also concluded that even when the mother delivers before full term, progesterone treatment can reduce the likelihood that the infant will die (by 43 percent), have [respiratory distress syndrome](#) (by 52 percent), weigh less than 3.5 pounds (by 45 percent), be admitted for intensive care (by 25 percent), or require [mechanical ventilation](#) (by 34 percent).

Based on their findings, the researchers recommended that doctors screen pregnant patients with ultrasound of the cervix routinely at 19 to 24 weeks of gestation. If physicians detect a short cervix (10 to 20 millimeters) with ultrasound, the study authors recommended treatment with 90 mg per day of progesterone is recommended between weeks 20 and 37.

"These findings confirm that routine screening and treatment with vaginal progesterone can greatly reduce the rate of [preterm birth](#) in women with a short cervix and reduce the occurrence of the complications of prematurity among their infants," said first author Roberto Romero, M.D., chief of the Perinatology Research Branch at the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), the NIH institute that led the study.

Dr. Romero and colleagues at the NICHD Perinatology Research Branch collaborated with 14 co-authors from institutions elsewhere in the United States and in Austria, Brazil, Denmark, India, South Africa, Turkey, and the United Kingdom.

Combining information from the five studies, the researchers analyzed data from 775 women. Comparing women who received progesterone treatment with those who did not, the researchers separately calculated the rate of preterm delivery at each week of gestation.

Preterm delivery is known to raise the risk of a preterm birth in

subsequent pregnancies. However, the researchers found that women with a short cervix who previously had given birth preterm benefitted from progesterone treatment as much as did those who did not have a history of preterm delivery.

Differences in the rate of preterm birth were seen in the weeks shown in the chart below. The original studies did not have sufficient data to compare results for infants born before week 32.

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