**30 Vaginal versus Intramuscular Progesterone for Prevention of Recurrent Preterm Birth (VIP): a randomized controlled trial**

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**OBJECTIVE:** To determine whether vaginal progesterone is superior to intramuscular 17-hydroxyprogesterone caproate (17OHPC) in prevention of recurrent preterm birth (PTB) in singletons with prior spontaneous preterm birth (sPTB).

**STUDY DESIGN:** This is a multi-center randomized controlled trial of patients eligible for progesterone therapy with a singleton gestation and prior sPTB. A sample size of 95 participants in each arm was calculated to detect a 50% difference in PTB risk (80% power and 2-sided α=0.05) based on a 36% recurrent PTB rate with 17OHPC. Participants randomized 1:1 to 200mg vaginal progesterone daily or 250mg 17OHPC injection weekly from 16-36 weeks. The primary outcome was PTB < 37 weeks. Secondary outcomes included PTB < 34 and < 28 weeks, mean gestational age at delivery, neonatal morbidity/mortality, and measures of adherence. This was a pragmatic trial, there was no exclusion based on adherence and progesterone was ordered through insurance. Analysis was by intention to treat. Chi square and student t-test were used to compare outcomes, as appropriate. Kaplan-Meier survival curve used to compare latency to delivery. P<0.05 considered significant. Registered on clinicaltrials.

**RESULTS:** Of 205 randomized, 94 in vaginal progesterone and 94 in 17OHPC groups were included (Figure A). Those assigned to vaginal progesterone initiated therapy earlier (16.9 ±1.4 vs 17.8±2.5wks, p=0.001), but overall continuation of assigned formulation until delivery was similar (73% vs 69%, p=0.61). There was no significant difference in PTB < 37wks (31% vs 38%, p=0.28). Those assigned vaginal progesterone had a later mean gestational age at delivery (37.4±2.7 vs 36.3±4.1 wks, p=0.047) with a trend of increased latency (log rank p=0.055) (Figure B). Other outcomes were similar (Table).

**CONCLUSION:** Vaginal progesterone is not superior to 17OHPC in prevention of recurrent preterm birth, but may increase latency to delivery. Both vaginal progesterone and 17OHPC may be considered for use in prevention of recurrent PTB, taking into consideration patient preferences and ability to obtain medication in a timely fashion.

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**31 Effect of the ALPS trial on steroid and assisted ventilation use in late preterm infants**

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