

# Does 17 Alpha-Hydroxyprogesterone Caproate Decrease the Rate of Preterm Birth in Women with an Ultrasound-Indicated Cerclage?

Abstract: 0466

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## ABSTRACT

**Objective** To estimate whether the use of 17 alpha-hydroxyprogesterone caproate (17P) in women with an ultrasound-indicated cerclage (UIC) reduces the rate of preterm birth (PTB).

**Methods** Retrospective cohort study of women with a 1) previous spontaneous PTB between 20-36 weeks and 2) current UIC placement for cervical length (CL) <25mm between 15-23 6/7 weeks. The study group consisted of women treated with 17P starting at 16-20 weeks, and the control group consisted of women who were not treated with 17P. Primary outcome was PTB <35 weeks. Secondary outcomes included PTB <32 weeks, PTB <37 weeks, gestational age (GA) at delivery, and birthweight.

**Results** 59 women with a prior PTB and current UIC were identified. 15 women (25.4%) received 17P, while 44 (74.6%) did not. Baseline characteristics (age, race, smoking history, >1 dilation and curettage, history of cone biopsy, number of prior PTBs, earliest GA of prior PTB, GA at cerclage placement, shortest CL prior to cerclage) did not differ between the two groups. 17P was not associated with significant effects on the primary or secondary outcomes.

**Conclusion** Among women with a prior spontaneous PTB and current UIC for CL<25mm, 17P did not reduce the rate of PTB <35 weeks.

## BACKGROUND

- Placing an ultrasound-indicated cerclage (UIC) once the transvaginal cervical length (TV CL) falls below 25mm between 16-23 6/7 weeks' gestation in women with a previous preterm birth (PTB) has been shown to reduce the rate of PTB.
- In women with a prior PTB, weekly 17 alpha-hydroxyprogesterone caproate (17P) has also been shown to be beneficial in reducing the rate of PTB.
- While the most recent randomized study on UIC involved many women receiving 17P, the earlier studies did not have women on 17P, as at that time, it was not yet standard of care.
- Our objective was to examine the efficacy of 17P at prolonging gestation in women with a prior PTB, who have received an UIC.**

## MATERIALS & METHODS

- This was a retrospective cohort study, using data from an existing prematurity database (1995-2009).
- Inclusion criteria: singleton gestation, previous spontaneous PTB between 20-36 6/7 weeks, asymptomatic women with TV CL <25mm, with or without usage of 17P, UIC placed between 15-23 6/7 weeks.
- Exclusion criteria: multiple gestations, history or physical-exam indicated cerclage, indicated PTB, major fetal anomalies.
- The primary outcome variable was PTB <35 weeks.** Secondary outcomes included PTB <32 weeks, PTB <37 weeks, GA at delivery, and neonatal birthweight.

## RESULTS

- 59 women with a prior PTB and current UIC were identified:

**17P:** 15 (25.4%)

**No 17P:** 44 (74.6%)

- Baseline characteristics (Table 1) did not differ between the two groups.

**Table 1: Demographics**

Variable	17P n=15 (%)	No 17P n=44 (%)	p
Age*	28 [25-33]	28 [25-33]	0.85
Race			
African American	14 (93.3)	32 (72.7)	0.15
Caucasian	1 (6.7)	12 (27.3)	
Smoking	3 (20.0)	11 (25.0)	0.99
>1 Dilation and Curettage	3 (20.0)	11 (25.0)	0.99
History of Cone Biopsy	3 (20.0)	2 (4.5)	0.10
History of >1 PTB	6 (40.0)	16 (36.4)	0.80
Earliest GA (wk) of Prior PTB*	25 [20-32]	22 [20-24]	0.06
GA (wk) at Cerclage Placement*	21 [16-22]	19 [17-21]	0.38
Pre-Cerclage Shortest CL (mm)*	18 [12-22]	17 [12-20]	0.64

\*Data presented as Median [IQR]

- 17P was not associated with significant effects on the primary or secondary outcomes (Table 2, Figures 1 and 2).**

**Table 2: Delivery Outcomes\***

**Median gestational age at delivery (*p* value 0.17)**

**17P** 35 weeks (27-38 wks)

**No 17P** 38 weeks (33-39 wks)

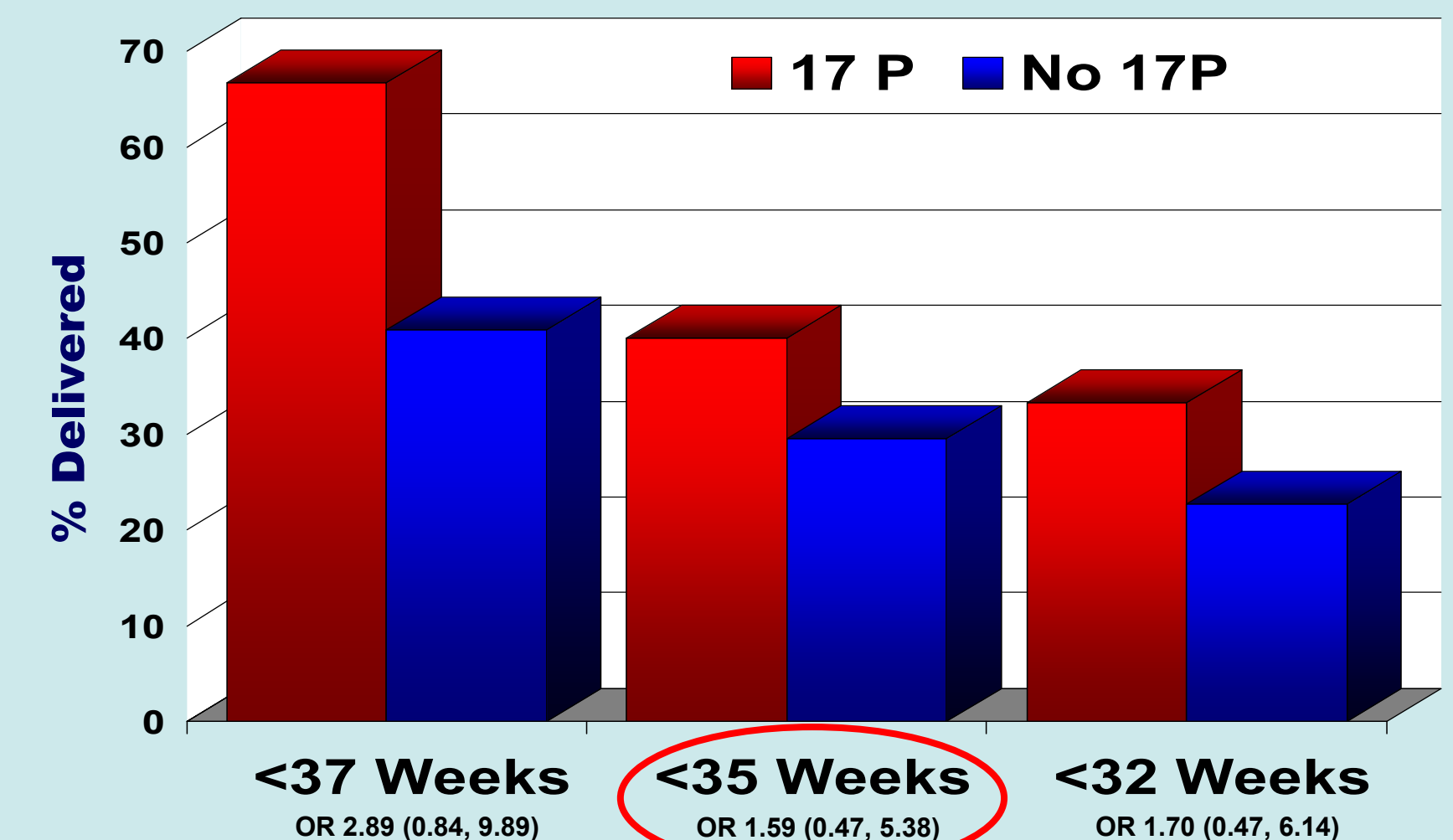
**Median neonatal birthweight (*p* value 0.50)**

**17P** 2381g (1724-3196g)

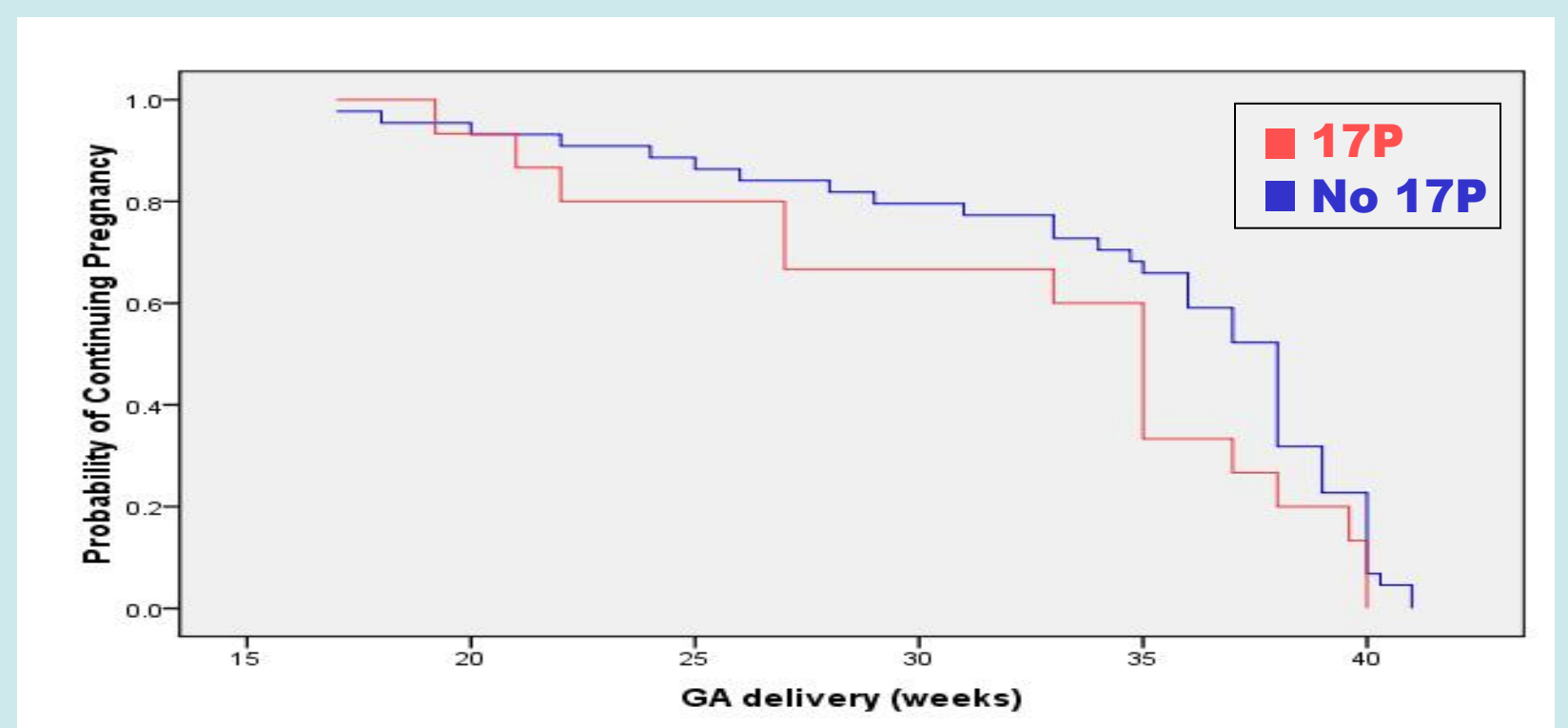
**No 17P** 2920g (1800-3380g)

\*Data presented as Median (IQR)

**Figure 1: PTB outcomes (17P vs No 17P)**



**Figure 2: Kaplan-Meier (17P vs No 17P)**



## CONCLUSIONS

- Among women with a prior spontaneous PTB and current UIC for CL<25mm, 17P did not reduce the rate of PTB <35 weeks.**
- 17P did not seem to have a prolonging effect on gestation, nor did it have an effect on neonatal birthweight.
- There was a non-significant trend toward increased odds of PTB and lower birthweights in the 17P group compared with the No 17P group.