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Title: **Effect of time interval from antenatal corticosteroid administration to delivery on neonatal outcomes.**

Introduction:

•Antenatal corticosteroids (ACS) accelerate fetal lung maturation and reduce neonatal respiratory distress syndrome (RDS).

•RCOG suggests ACS administration 24 hours to 7 days before delivery for best outcomes.

•NICE advises against rescue doses unless gestation is under 26 weeks.

•ACOG allows one rescue ACS course for ongoing preterm delivery risk.

•The optimal interval between initial and rescue ACS remains uncertain, needing further study.

Objectives: To evaluate the effect of time interval between ACS administration and delivery on neonatal outcomes in preterm deliveries.

Materials and Methods

•This was a prospective observational study conducted at Pt. B. D. Sharma PGIMS, Rohtak for one year from May 2023 to April 2024.

Inclusion Criteria: Singleton pregnancies, 28–33+6 weeks of gestation.

Exclusion Criteria: Women with absent/incomplete ACS or who received repeat dose of ACS, GCMF baby, IUGR

•Participants were categorized based on time intervals:

•Group 1: Delivery between 24–48 hours post-ACS.

•Group 2: Delivery within 2–7 days.

•Group 3: Delivery 7–14 days post-ACS.

•Group 4: Delivery 14-21 days post-ACS.

•**Primary Outcomes**: RDS, mortality, IVH, and NICU stay.

•**Secondary Outcomes**: Hypoglycemia, NEC, and oxygen therapy duration.

Results:

	Gp 1 (n=50)	Gp 2 (n=50)	Gp 3 (n=50)	Gp 4 (n=50)	P value
B. weight (kg) (Mean ±SD)	1.68±0.25	1.66 ± 0.22	1.64 ± 0.21	1.59 ± 0.2	0.205 ‡
POG (weeks) (Mean ±SD)	32.28 ± 1.43	32.78 ± 0.99	32.65 ± 0.98	32.61 ± 0.89	0.126‡

Table 1 : comparison of birth weight (kg) and period of gestation(weeks) between different groups

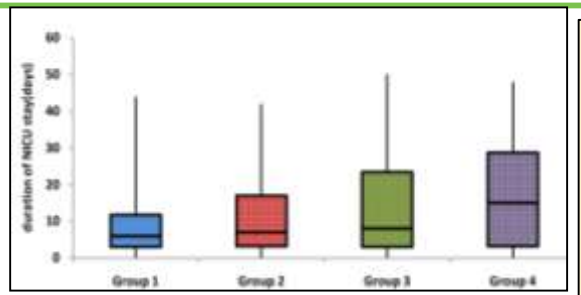

Fig 1:-Comparison of NICU stay(days) between different group. (non-parametric variable, Box-whisker plot) (gp1 vs 4, (p=0.04)

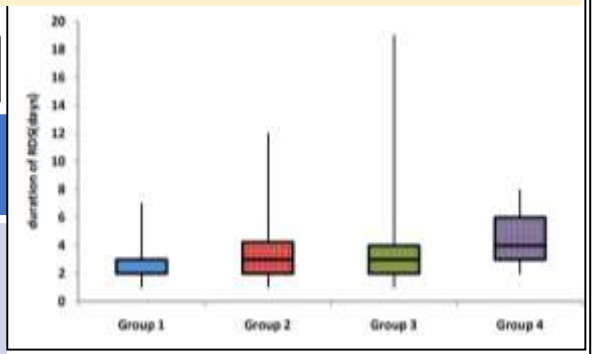

Fig 2:-Comparison of duration of RDS(days) between different groups (non-parametric variable, Box-whisker plot) gp 1 vs 4 p=:0.001

•No significant differences were seen in the occurrence of RDS between these groups. (p value = 0.555)

•Statistical analysis revealed no significant differences in the occurrence of NEC (p=0.619), IVH (p = 1) and mortality (p=0.092) among the four groups

Conclusion: No significant differences were observed in Apgar score, RDS, O_2 duration, surfactant use, IVH, or NEC across ACS-birth intervals.

•Group 4 showed significant differences in NICU stay and RDS duration,

•So we can conclude that effect of antenatal corticosteroid is lasting till 14 days and start declining after that

References: 1. Committee on Obstetric Practice. Committee Opinion No. 713: antenatal corticosteroid therapy for fetal maturation. Gynecol Obstet. 2017;130(2):e102-9.
2. ACOG Committee Opinion No. 475: antenatal corticosteroid therapy for fetal maturation. Obstet Gynecol. 2011;117(2 Pt 1):422-424.

No conflict of interest