

ORIGINAL ARTICLE

Morbidity of late preterm infants with term infants

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ABSTRACT:

Background: Late preterm infants (LPIs) born between 340/7 and 366/7 weeks gestation account for more than three-quarters of preterm birth worldwide. The present study compared morbidity of later preterm infants with term infants. **Materials & Methods:** 30 late preterm infants and 30 term infants of both genders were enrolled. In all infants, mode of delivery, APGAR score, hypoglycemia, morbidity, jaundice and sepsis etc. was recorded. **Results:** Group I had 17 males and 13 females and group II had 14 males and 16 females. The mean gestation weeks in group I was 35.2 weeks and in group II was 38.4 weeks, mode of delivery was vaginal in 22 in group I and 15 in group II, cesarean in 8 in group I and 15 in group II, APGAR score at 1 minute was 7.34 in group I and 7.75 in group II, at 5 minute was 8.42 in group I and 8.65 in group II. The difference was significant ($P < 0.05$). Sepsis was seen 1 in group I, respiratory morbidity 2 in group I and 1 in group II, hypoglycemia was seen in 3 in group I and 1 in group II and jaundice in 1 in group I and 0 in group II. The difference was significant ($P < 0.05$). **Conclusion:** Late preterm infants were at high risk for hypoglycemia, sepsis, respiratory morbidity and jaundice.

Key words: Sepsis, Late preterm infants, gestational age

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INTRODUCTION

Late preterm infants (LPIs) born between 340/7 and 366/7 weeks gestation account for more than three-quarters of preterm birth worldwide, representing 276,000 total births in the USA in 2018. In Europe, preterm birth rates range from 5.5 to 11.1% for all live births, with 35 to 36 weeks gestation representing a median of 60% of all preterm births.¹

The morbidity and mortality pattern in late preterm infants is higher than term infants (gestational age ≥ 37 weeks).² The main reason behind that is the relative physiologic and metabolic immaturity, though there is no significant difference in the weight or the size of the two groups.³ The late preterm infants are at twice to thrice increased risk of morbidities like hypoglycaemia, poor feeding, jaundice, infection and re-admission rates after initial hospital discharge. The infant mortality rate during first year of life for late-preterm infants is on an average four-fold higher than that for term infants.⁴

The late preterm group has 2 to 3 fold increased rates for mild to moderate morbidities, such as hypothermia, hypoglycemia, delayed lung fluid

clearance and respiratory distress, poor feeding, jaundice, infection, and readmission rates after initial hospital discharge.⁵ As the late preterm subgroup accounts for nearly 10% of all births, even a modest increase in any morbidity will have a huge impact on the overall health care resources. Thus, it is not surprising that the absolute number of late preterm infant being admitted to NICUs has been increasing worldwide.⁶ The present study compared morbidity of later preterm infants with term infants.

MATERIALS & METHODS

The present study comprised of 30 late preterm infants and 30 term infants of both genders. Parents were informed regarding the study and written consent was obtained.

Data such as age, gender etc. was recorded. Late preterm was put in group I and term in group II. In all infants, mode of delivery, APGAR score, hypoglycemia, morbidity, jaundice and sepsis etc. was recorded. Results were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Total- 60		
Gender	Group I (Late Preterm)	Group II (Term)
M:F	17:13	14:16

Table I shows that group I had 17 males and 13 females and group II had 14 males and 16 females.

Table II Comparison of variables in both groups

Parameters	Variables (mean)	Group I	Group II	P value
Gestation weeks		35.2	38.4	0.86
Mode of delivery	Vaginal	22	15	0.94
	Cesarean	8	15	
APGAR	At 1 minute	7.34	7.76	0.05
	At 5 minutes	8.42	8.65	0.05

Table II shows that mean gestation weeks in group I was 35.2 weeks and in group II was 38.4 weeks, mode of delivery was vaginal in 22 in group I and 15 in group II, cesarean in 8 in group I and 15 in group II, APGAR score at 1 minute was 7.34 in group I and 7.75 in group II, at 5 minute was 8.42 in group I and 8.65 in group II. The difference was significant ($P < 0.05$).

Table III Comparison of morbidity on both groups

Morbidity	Group I	Group II	P value
Sepsis	1	0	0.05
Respiratory morbidity	2	1	
Hypoglycemia	3	1	
Jaundice	1	0	

Table III shows that sepsis was seen 1 in group I, respiratory morbidity 2 in group I and 1 in group II, hypoglycemia was seen in 3 in group I and 1 in group II and jaundice in 1 in group I and 0 in group II. The difference was significant ($P < 0.05$).

DISCUSSION

The American Academy of Paediatrics (AAP), American College of Obstetrics and Gynaecology (ACOG) and National Center for Health Statistics (NCHS) define late preterm birth as the delivery of an infant from 34 weeks to 36 weeks and 6 days of gestation (i.e., 239 to 259 days after the first day of the LMP). They account for 9.1% of all births and three-quarter of all preterm births.⁷ Neonatal period is considered as most critical phases of life. To achieve MDG-4, a substantial reduction in neonatal deaths will be required. The first step in improving early neonatal survival is to document the number and rate of deaths, and identify their common causes.⁸ As the late preterm neonates subgroup accounts for nearly 10% of all births, even a modest increase in any morbidity will have a huge impact on the overall health care resources. Thus, it is not surprising that the absolute number of late preterm infant being admitted to NICUs has been increasing worldwide.⁹ The present study compared morbidity of later preterm infants with term infants.

We found that group I had 17 males and 13 females and group II had 14 males and 16 females. Aggarwal et al¹⁰ found that compared with full-term infants, spontaneous late preterm delivery was independently associated with an increased risk of neonatal morbidity, including respiratory distress syndrome, sepsis, intraventricular hemorrhage, hypoglycaemia, and jaundice requiring phototherapy.

We found that mean gestation weeks in group I was 35.2 weeks and in group II was 38.4 weeks, mode of delivery was vaginal in 22 in group I and 15 in group II, cesarean in 8 in group I and 15 in group II, APGAR score at 1 minute was 7.34 in group I and 7.75 in group II, at 5 minute was 8.42 in group I and 8.65 in group II. Yoder et al¹¹ in their study included 363 late preterm infants and 2707 term infants. Two

hundred fifty seven (70.8 %) of late preterm and 788 (29.1%) of term infants had at least one of the predefined neonatal conditions. Late preterm infants were at significantly higher risk for overall morbidity due to any cause.

We found that sepsis was seen 1 in group I, respiratory morbidity 2 in group I and 1 in group II, hypoglycemia was seen in 3 in group I and 1 in group II and jaundice in 1 in group I and 0 in group II. Shapiro et al¹² demonstrated that the risks of morbidities in LPIs are due to physiological immaturity. Their study determined that LPIs exposed to similar risk factors as term infants had worse outcomes, with the independent effect of late prematurity being a 7 times greater risk factor than any of the selected maternal medical conditions.

CONCLUSION

Authors found that late preterm infants were at high risk for hypoglycemia, sepsis, respiratory morbidity and jaundice.

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