

ORIGINAL ARTICLE

To Determine the Frequency of Necrotizing Enterocolitis in Preterm Infants

NUSRAT HUSSAIN¹, SULEMAN², AMNA WAJDAN³, RABIA BASHIR⁴, RABIA SALEEM⁵, SAJID AKHTAR⁶¹Assistant Professor, Pediatric Medicine, Nishtar Medical University, Multan^{2,3,4}Assistant Professor, Pediatric Medicine, Nishtar Medical University, Multan⁵Senior Registrar, Pediatric Medicine, Nishtar Medical University, Multan⁶Pediatrician, Nishtar Medical University, MultanCorrespondence to Dr. Nusrat Hussain, Email: drmuhammadfarooqmalik@gmail.com

ABSTRACT

Aim: To determine the frequency of necrotizing enterocolitis in preterm infants**Place and duration of study:** It is a descriptive cross-sectional study in Pediatric Medicine Department, Nishtar Hospital Multan from March, 2021 to August, 2021**Methodology:** The preterm neonates were called for follow up every week for 4 weeks to diagnose Necrotizing enterocolitis.**Results:** Out of 174 cases, 101 (58%) were males while 73 (42%) were females. Necrotizing enterocolitis (NEC) was noted in 61 (35.1%) while NEC in breastfeeding infants was 14/74 (18.9%) and in formula feeding infants NEC was 47/100 (47%).**Conclusion:** High frequency of necrotizing enterocolitis was observed in this study among formula fed preterm infants as compared to breastfed preterm infants.**Keywords:** Breastfeeding, formula feeding, Necrotizing enterocolitis

INTRODUCTION

Necrotizing enterocolitis is an inflammatory bowel necrosis of infants. It is the most common gastrointestinal emergency in preterm neonates¹. The incidence of Necrotizing enterocolitis is estimated to be 1–3 / 1000 live births, with >90% of all cases occurring in preterm infants².

It is major cause of morbidity and mortality in neonatal ICU throughout the world.³ Necrotizing enterocolitis occurs in 4%–11% of all premature infants born with low birth weight (1500g), and the frequency in this subgroup is also inversely related to birth weight and gestational age⁴. In infants receiving enteral feedings, necrotizing enterocolitis is common⁵.

The objective of the study was to determine the frequency of necrotizing enterocolitis in preterm infants

METHODOLOGY

It is a descriptive cross-sectional study and done in Pediatric Medicine Department, Nishtar Hospital Multan for six months from March, 2021 to August, 2021 and sample size is 174 cases

Inclusion Criteria:

- Preterm infants born between 25+0 to 31+6 weeks gestational age (on LMP) till four weeks after birth.
- Both gender

Exclusion Criteria:

- Presence of clinically significant congenital heart disease.
 - Presence of any major congenital malformations.
- Gestational age and weight was recorded. These preterm neonates were called for follow up every week for 4 weeks to diagnose Necrotizing enterocolitis and data was recorded on specially designed proforma. Data was analyzed with SPSS version 20.

RESULTS

Table 1: Gender Distribution.

Gender	n	%age
Male	101	58.0
Female	73	42.0
Total	174	100

Table 2: Gestational age wise distribution

Gestational age	Frequency	%age
Up to 30weeks	100	57.5
More than 30 weeks	74	42.5
Total	174	100

Table 3: Distribution of pattern of feeding

Feeding	Frequency	%age
Breastfeeding	74	42.5
Formula feeding	100	57.5
Total	174	100

Table 4: Distribution of necrotizing enterocolitis

Necrotizing Enterocolitis	Frequency	%age
Yes	61	35.1
No	113	64.9
Total	174	100

Table 5: NEC in respect of gender.

Sex	NEC		P value
	Yes(n=61)	No(n=113)	
M(n=101)	20	81	0.000
F(n=73)	41	32	
Total	174		

Table 6: NEC with regards to pattern of feeding.

Feeding	NEC		P value
	Yes (n=61)	No (n=113)	
Breastfeeding (n=74)	14	60	0.000
Formula feeding (n=100)	47	53	
Total	174		

DISCUSSION

Out of 174 study cases, 101(58%) were male patients while 73(42%) were female patients. Rashid et al⁷ reported male gender predominance with 62% male preterm neonates and these findings are consistent with our study. Khan et al⁸ also reported male gender predominance with 57% preterm male neonates which are in favor of our study.

Breast feeding was noted in 74(42.5%) while formula feeding was noted in 100(57.5%). Out of 174 study cases, necrotizing enterocolitis (NEC) was noted in 61(35.1%) while NEC in breastfeeding infants was 14/74 (18.9%) and in formula feeding infants NEC was 47/100 (47%). In another study, 39% of preterm infants showed Necrotizing enterocolitis on formula feed as compare to 13% on breast feed⁶. These findings are in compliance with our study results.

CONCLUSION

High frequency of necrotizing enterocolitis was seen in this study among formula fed preterm infants as compared to breastfed preterm infants. Necrotizing enterocolitis was significantly associated with gender

Received on 14-09-2021

Accepted on 03-12-2021

REFERENCES

1. Henry MC, Moss RL. Necrotizing enterocolitis. *Annu Rev Med.* 2009;60:111–124.
2. Frost BL, Jilling T, Caplan MS. The importance of pro-inflammatory signaling in neonatal necrotizing enterocolitis. *Semin Perinatol.* 2008;32(2):100–106.
3. Neu J, Walker WA. Necrotizing enterocolitis. *N Engl J Med.* 2011;364(3):255-264.
4. Lee JS, Polin RA. Treatment and prevention of necrotizing enterocolitis. *Semin Neonatol.* 2003;8(6):449–459.
5. McKeown RE, Marsh TD, Amarnath U. Role of delayed feeding and of feeding increments in necrotizing enterocolitis. *J Pediatr.* 1992;121(5 Pt 1):764–770.
6. Beeby PJ, Jeffery H. Risk factors for necrotising enterocolitis:the influence of gestational age. *Arch Dis Child.* 1992;67:432-435.
7. Rashid J, Shahid M, Anwar S et al. Frequency of intraventricular haemorrhage in preterm neonates *Pak J Med Health Sci.* 2010;4(4):515-9.
8. Parveen Z. Birth Weight Percentiles by Gestational Age: A Hospital Based Study. *J Ayub Med Coll Abbottabad.* 2001;13(2):22-7.