



ISSN: 2091-2749 (Print)
2091-2757 (Online)

Correspondence

Dr. Sitaram Shrestha
Dept. of General Practice and
Emergency, Patan Hospital,
Patan Academy of Health
Sciences, Lalitpur, Nepal
Email: sitaram2051@gmail.com

Peer Reviewers

Prof. Dr. Jay N Shah
Patan Academy of Health
Sciences

Prof. Dr. Nabees Man Singh
Pradhan
Patan Academy of Health
Sciences

Submitted

20 Aug 2019

Accepted

16 Dec 2019

How to cite this article

Sitaram Shrestha. Neonatal
admission from emergency
department. Journal of Patan
Academy of Health Sciences.
2020Apr;7(1):117-120.

DOI:

<https://doi.org/10.3126/jpahs.v7i1.28888>

Neonatal admission from emergency department

Sitaram Shrestha ✉

Prof., Dept. of General Practice and Emergency Medicine, Patan Hospital, Patan Academy of Health Sciences, Lalitpur, Kathmandu, Nepal

Abstract

Neonatal period is a vulnerable period of life. In Nepal, most common causes of newborn admission in the neonatal intensive care unit (NICU) are birth asphyxia, neonatal sepsis. This study explores the diseases with which 131 neonates were admitted from emergency department. Sepsis was the main cause of admission, followed by pneumonia.

Keywords: admission, jaundice, neonates, NICU, sepsis.

Introduction

Out of the 130 million babies born every year, about 4 million die in the first 4 w of life during the neonatal period.¹ Sick neonates who are brought to emergency department, after preliminary management, gets admitted sometimes to neonatal intensive care unit (NICU). This study aim to find out the spectrum of diseases in neonates who were admitted to NICU through emergency department at Patan Hospital, Nepal. This is one of the busiest emergency department in the country with more than 40000 patient visits per year.

Present Scenario

There were 41700 emergency visits in the year 2017-1018, and total admission 8370

(20.07%), pediatric 1252 (3%). The neonatal admissions were 131 (0.3%) of total and 10.4% of pediatric admissions. In neonates, male were 68 (51.9%) and female 63 (48.1%). Early neonates were 50 (38.1%) and late neonates were 81 (61.8%).

The highest number of early neonatal admission 11/month in Asar (Jun-Jul) and Ashoj (Sep-Oct), Figure 1. In early neonates, 18 (13.7%) were neonatal sepsis and 12 (9.1%) neonatal jaundice, Figure 2. In late neonatal admission, 32 (24.4%) were due to sepsis, Figure 3.

There were 21 (16.03%) blood culture positive cases out of which 5 (23.8%) was Klebseilla Pneumonia, Figure 4. One hundred and four (80%) neonate were born in this hospital and 7 (5 %) born outside and in 20 (15%) place of delivery was not mentioned in record.

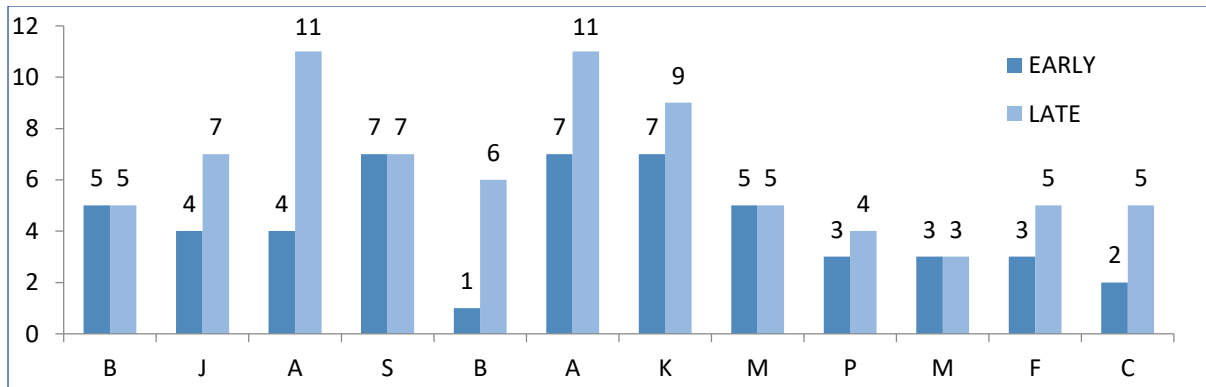


Figure 1. Number of early and late neonate admissions during 2017-2018 (as per Nepali months*), N=131

Note= Nepali months, B=Baisakh (Apr-May), J=Jesth, A=Ashar, S=Shrawan, B=Bhadra, A=Ashwin, K=Kartik, M=Mangsir, P=Poush, M=Magh, F=Falgun, C=Chaitra (Mar-Apr)

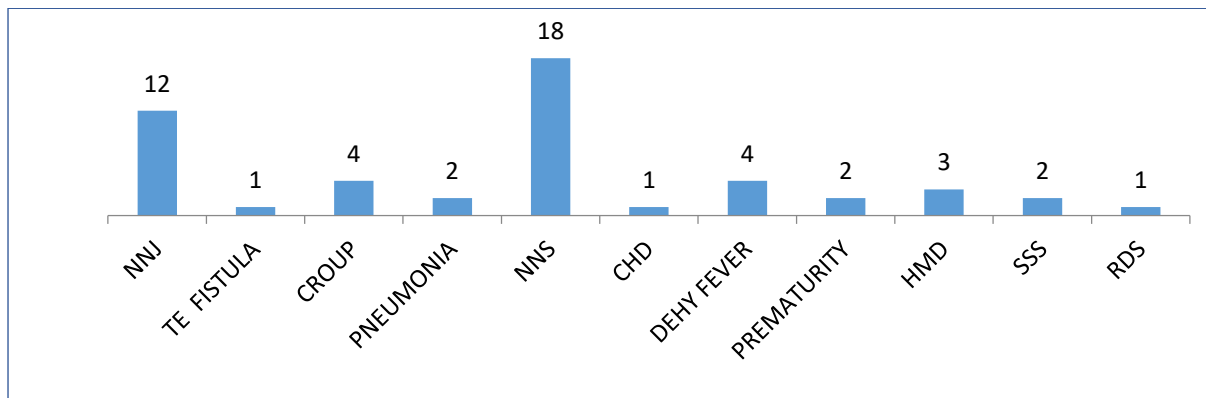


Figure 2. Cause of admission for early neonates, N=50

Notes: NNJ=Neonatal Jaundice, TE Fistula=Tracheoesophageal fistula, NNS=Neonatal Sepsis, CHD=Congenital Heart Disease, DEHY FEVER=Dehydration/fever, HMD=Hyaline membrane disease, SSS=Sepsis, RDS=Respiratory Distress Syndrome

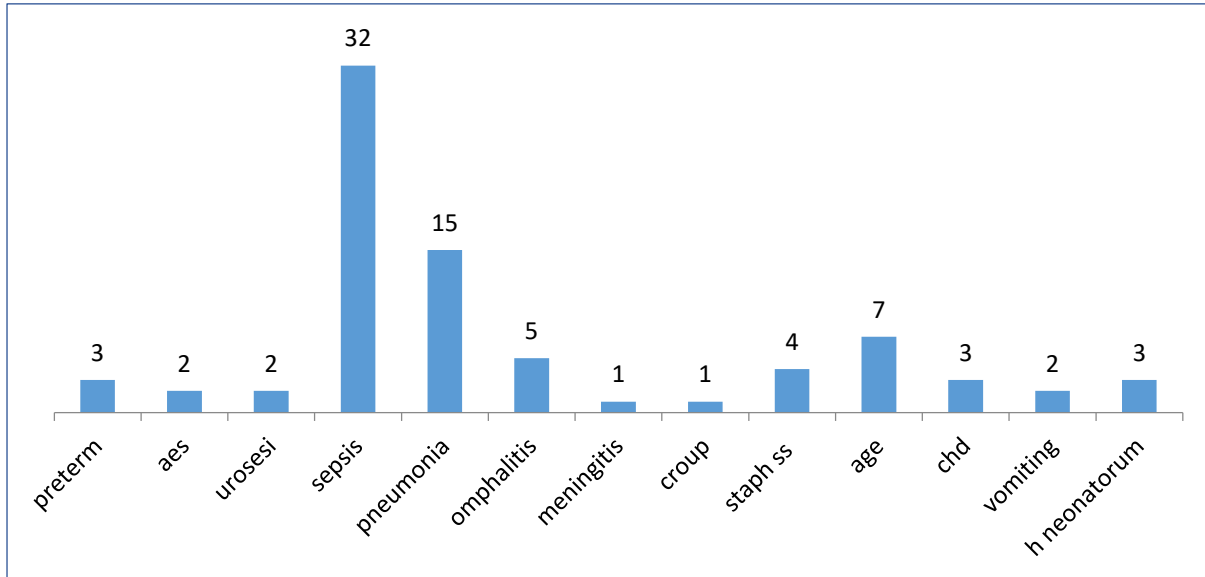


Figure 3. Cause of admission for early neonates, N=81

aes=Acute encephalitic syndrome, staph ss=??, age=Acute gastroenteritis, chd=???, h neonatrum=??

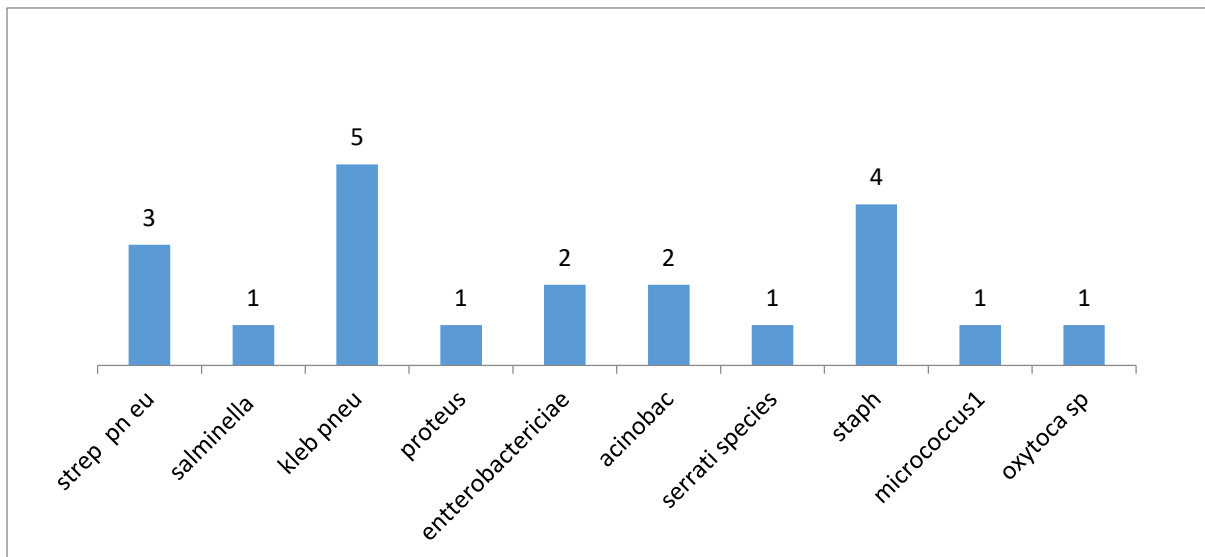


Figure 4. Growth of organism in blood, N=21

strep neu= Streptococcal Pneumonia, kleb pneu=Klabseilla Pneumonia, enterobct= Enterobacter, acinobat=Acinatobacter, serrati=???, staph=Staphylococcus Aerus, micrococc=Micrococcus, oxytoca sp=??)

Discussion

Neonates were about 10% among all admitted pediatric patients. Most of the neonates (80%) who attended the emergency were born in this hospital and male to female ratio was 1.07:1.

Report from Pokhara, Nepal, showed 182 neonates, admitted, 32.4% were inborn,

41.2% babies were admitted directly from the emergency or outpatient department and 22.5 % were referred from district hospitals. Male: female ratio was 1.1:1.² A report from Kanti Children Hospital in Kathmandu had 1286 neonates admitted in neonatal intermediate care unit, 861 (67%) male and 423 (33%) female. Male to female ratio was 2:1. Majority of the babies, 1028 (80.0%) were full-term, 256 (20.0%) were preterm. Among

the total admission, 1157 (90.0%) were from outside the valley and 561 (43.6%) were less than 7 days.³ Report from KIST medical college showed 279 neonatal admissions, male 161 and female 118.⁴

The most common cause of admission of early neonate at our hospital was neonatal sepsis (13.7%) followed by neonatal jaundice (9.1%), and in late neonate due to sepsis (24.4%). This is comparable to study from KIST medical college where commonest indication for admission was neonatal sepsis (n=349; 34.5%) followed by prematurity (n=236; 23.3%) and perinatal asphyxia (n=233; 23.1%).⁵

There were 21 (16.03%) blood culture positive cases, 5 (23.8%) *Klebsiella Pneumonia*. A study done in KIST reports coagulase negative as most common in blood culture.³

Conclusion

Sepsis is major cause of neonatal admission from emergency department. Late neonatal admission is more common than early neonatal admission.

Conflict of Interest

None

Funding

None

References

1. WHO. Newborns: reducing mortality. World Health Organization [internet]. 2019 Sep 19; Key facts. [Weblink](#)
2. Gauchan E, Basnet S, Koirala DP, Rao KS. Clinical profile and outcome of babies admitted to neonatal intensive care unit (NICU). *Journal of Institute of Medicine*. 2012. [GoogleScholar](#) [Weblink](#)
3. Chapagain RH, Basaula YN, Kayatha M, Adhikari K, Shrestha SM. Disease profile and hospital outcome of newborn admitted to neonatal intermediate care unit at tertiary care center in Nepal. *Kathmandu Univ Med J (KUMJ)*. 2017;58(2):126-9. [GoogleScholar](#) [Weblink](#)
4. Shakya A, Shrestha D, Shakya H, Shah SC, Dhakal AK. Clinical profile and outcome of neonates admitted to the Neonatal Care Unit at a teaching hospital in Lalitpur, Nepal. *Journal of Kathmandu Medical College*. 2014;3(4):144-8. DOI [GoogleScholar](#) [PDF](#) [Weblink](#)
5. Shakya A, Shrestha D, Shakya H, Shah SC, Dhakal AK. Clinical profile and outcome of neonates admitted to the neonatal care unit at a teaching hospital in Lalitpur, Nepal. *Journal of Kathmandu Medical College*. 2014;3(4):144-8. DOI [GoogleScholar](#)