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A STUDY OF INCIDENCE AND DEMOGRAPHIC DISTRIBUTION OF NEONATAL SEPSIS IN NICU:

Pediatric

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ABSTRACT

Neonatal sepsis is a significant cause of morbidity and mortality.Appropriate clinical diagnosis and empirical antibacterial treatment in a given setting is crucial as pathogens of bacterial sepsis and antibiotic sensitivity pattern can considerably vary in different settings.As neonatal septicemia is life threatening emergency and delays in diagnosis and treatment may have immediate and longterm adverse consequences ,antibiotic surveillance is needed. A sincere attempt is made to understand the Incidence and Demographic distribution of Neonatal Sepsis in NICU.

KEYWORDS

Incidence, Demography, Neonatal Sepsis, NICU.

Introduction:

Neonatal Sepsis is the most important cause of morbidity and Mortality in developing countries. Neonatal sepsis is diagnosed when Generalized systemic features are associated with pure growth of bacteria from one or more sites.[1]

In developing countries, neonatal mortality (death in the first 28days of life per 1000 live births) due to all causes is about 34 per 1000 live births, most of these deaths occur in the first week of life[2,3].

In developing countries sepsis is the commonest cause of mortality responsible for 30% to 50% of 5 million neonatal deaths every year[2].

It is important to remember that bacterial flora is dynamic, different from one place as compared to the other and it changes in the same place over a period of time. It is essential to closely monitor the bacterial flora of the NICU and the antibiotic sensitivity pattern of pathogens to evolve rational antibiotic policy ,which is most suitable and specific for a particular NICU.[1]

Detailed studies on the clinical manifestations and laboratory profile of neonatal septicaemia in rural India are uncommon.Good laboratory facilities,especially blood culture,are frequently unavailable in the rural heaithcare setting,resulting in the non-availability of relevant data on culture-proven neonatal sepsis[4]. Neonatal sepsis is a significant cause of morbidity and mortality.Appropriate clinical diagnosis and empirical antibacterial treatment in a given setting is crucial as pathogens of bacterial sepsis and antibiotic sensitivity pattern can considerably vary in different settings.As neonatal septicemia is life threatening emergency and delays in diagnosis and treatment may have immediate and longterm adverse consequences ,antibiotic surveillance is needed. A sincere attempt is made to understand the Incidence and Demographic distribution of Neonatal Sepsis in NICU.

Aims and Objectives:

To understand the Incidence and Demographic distribution of Neonatal Sepsis in NICU.

Materials and Methods:

Design: It is an observational cross sectional study.
Source: Travancore Medical College, Kollam
Period of Study: April 2016 to March 2017.

INCLUSION CRITERIA:

Neonates were included when at least three of the following risk factors were present[1]:

1. Febrile illness in the mother during or within two weeks of delivery (more than 38^0 C, oral temperature).
2. More than 3 vaginal examinations during labor.

EXCLUSION CRITERIA:

1.Neonates with lethal congenital anomalies

Results:

Out of 2992 NICU admissions in the study period from April 2012 to March 2013, 419(14%) cases were taken up for the study considering inclusion and exclusion criteria. Out of 419 cases, blood culture was positive in 197 (47.016%) cases.

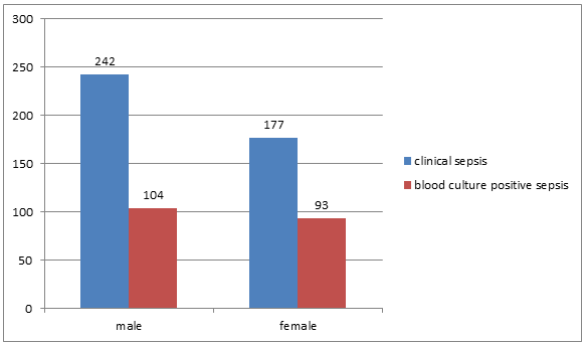
Table no.1: SEX DISTRIBUTION AMONG CLINICAL AND BLOOD CULTURE POSITIVE SEPSIS

Sex	CLINICAL SEPSIS		BLOOD CULTURE POSITIVE SEPSIS	
Male	242(57.75%)		104(52.79%)	
Female	177(42.24%)		93(47.2%)	
Total	419	p-value 0.001	197	p-value 0.42

Out of 419 cases of clinical sepsis 242(57.75%) were male neonates,177(42.24%) were female neonates. Male neonates with clinical sepsis were admitted more frequently than female neonates which is statistically significant. (p-value 0.01)

Among 197 cases of proven sepsis 104(52.79%) were male neonates and 93(47.2%) were females neonates. There was no sex difference in blood culture positive sepsis (p-value 0.42)

Fig.no 2:Sex distribution among clinical and blood culture positive sepsis



Discussion:

Among these 419 cases were suspected of septicemia and 197 cases were of proven septicemia. So, the incidence of clinical septicemia among the cases admitted in NICU, was 14%and the incidence of proven septicemia was 6.58%.

According to NNPD (2002 - 2003) reports, the incidence varying from 0.1% to 4.5% from 18 hospitals across India 4. The

reported incidence of neonatal sepsis varies from 7.1 to 38 per 1000 live births5.

SEX:

Among 419 cases of clinical sepsis 242(57,75%) were male neonates,177(42.24%) were female neonates,ratio being 1.3:1. .Male neonates were admitted with clinical sepsis more frequently than female neonates The ratio was similar in study done by **Muhammad Z et al (2010)**[6] .In the study done by **Waheed M et al(2003)** male to female ratio was 2.1:1.[7]

In developing countries, neonatal mortality (death in the first 28days of life per 1000 live births) due to all causes is about 34 per 1000 live births, most of these deaths occur in the first week of life[2,3].

In developing countries sepsis is the commonest cause of mortality responsible for 30% to 50% of 5 million neonatal deaths every year[2].

It is important to remember that bacterial flora is dynamic, different from one place as compared to the other and it changes in the same place over a period of time. It is essential to closely monitor the bacterial flora of the NICU and the antibiotic sensitivity pattern of pathogens to evolve rational antibiotic policy ,which is most suitable and specific for a particular NICU.[1]

Conclusion:

So, the incidence of clinical septicemia among the cases admitted in NICU, was 14%and the incidence of proven septicemia was 6.58%.

REFERENCES

1. Meharban Singh; Care of the newborn, 7th Edition; 223 – 230
2. Ashok K. Deorari; Neonatal sepsis: Manageable daunting issue for India. Journal of Neonatology 2009, Vol.23, 1, 2009: 7 – 11.
3. Bryer J, Boschi - Pinto C, Shibuya K, Black RE; WHO Child Health Epidemiology Reference Group. WHO Estimate of the causes of death in children. Lancet 2005; 365 : 1147 – 1152.
4. Viswanathan R, Singh AK, Ghosh C, Dasgupta S, Mukherjee S, Basu S. Profile of neonatal septicaemia at a district-level sick newborn care unit.J Health Popul Nutr. 2012 Mar;30(1):41-8.
5. Al-Shamahy HA, Sabrah AA, Al-Robasi AB, Naser SM et al Types of Bacteria associated with Neonatal Sepsis in Al-Thawra University Hospital, Sana'a, Yemen, and their Antimicrobial Profile.Sultan Qaboos Univ Med J. 2012 Feb;12(1):48-54.
6. Muhammad Z, Ahmed A, Hayat U, Wazir MS, Rafiyatullah, Waqas H et al Neonatal sepsis: causative bacteria and their resistance to antibiotics..J Ayub Med Coll Abbottabad. 2010 Oct-Dec;22(4):33-6.
7. Waheed M, Laeeq A, Maqbool S. et alThe etiology of neonatal sepsis and patterns of antibiotic resistance.J Coll Physicians Surg Pak. 2003 Aug;13(8):449-52.