



BIRTH WEIGHT AND GESTATIONAL AGE IN CLINICAL VS BLOOD CULTURE POSITIVE SEPSIS.

Pediatrics

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ABSTRACT

The incidence of neonatal septicemia is 1-4 per 1000 live births in developed countries with considerable fluctuation over time and geographical location⁶. The reported incidence of neonatal sepsis varies from 7.1 to 38 per 1000 live births in Asia⁷ and from 6.5 to 23 per 1000 live births in Africa⁸. Studies from India, Pakistan, Thailand and Malaysia reported incidence of neonatal sepsis ranging from 27-69%. Incidence of neonatal sepsis among hospitalized is approximately 5-6 per 1000 live births and incidence of meningitis approximately 0.7 – 1.0 per 1000 live births⁹. A Sincere effort has been put to understand the find the birth weight and gestational age in cases of clinical and blood culture positive sepsis.

KEYWORDS

BirthWeight, Gestational age, Clinical, Blood culture, Sepsis.

Introduction:

Of the 130 million babies born world wide each year 26 million are born in India alone. Four million babies die with in first 30 days of birth and another four million are stillborn¹. Newborn mortality represents 40% of all deaths of children less than five years of age. Of the four million deaths each year nearly 98% occur in developing countries². Globally major causes of neonatal deaths are due to preterm births (28%), sepsis or pneumonia (26%) and birth asphyxia (23%)³. Neonatal sepsis is one of the commonest causes of neonatal deaths in the developing world accounting to 30-50% of all neonatal deaths per year^{4,5}. The incidence of neonatal septicemia is 1-4 per 1000 live births in developed countries with considerable fluctuation over time and geographical location. The reported incidence of neonatal sepsis varies from 7.1 to 38 per 1000 live births in Asia and from 6.5 to 23 per 1000 live births in Africa. Studies from India, Pakistan, Thailand and Malaysia reported incidence of neonatal sepsis ranging from 27-69%. Incidence of neonatal sepsis among hospitalized is approximately 5-6 per 1000 live births and incidence of meningitis approximately 0.7 – 1.0 per 1000 live births. The incidence of neonatal sepsis according to data of National Neonatal Perinatal Database (NNPD) is 30 per 1000 live births. Several hospital based studies reported sepsis as the commonest cause of neonatal deaths.

In India sepsis has been reported as cause of neonatal deaths is 20-50% cases in community based studies. Review of community based studies since 1990 from developing countries suggested that incidence of neonatal sepsis is as high as 170 per 1000 live births (clinically confirmed) and 5.5 per 1000 live births (blood culture confirmed) and that infections may be responsible for 8-80% of all neonatal deaths and 42% of deaths in first week of life.

Aims and Objectives:

To understand the find the birth weight and gestational age in cases of clinical and blood culture positive sepsis.

Materials and Methods:

Design: It is an observational cross sectional study.

Source: Department of Pediatrics, Srinivas Institute of Medical Sciences and Research Centre, Mangalore

Period of Study: Oct 2016 to September 2017.

INCLUSION CRITERIA:

1. Preterm baby or LBW baby.
2. Birth asphyxia and difficult resuscitation.

EXCLUSION CRITERIA:

1. Neonates with lethal congenital anomalies
2. Neonates whose parents didn't give consent

Results:

Table no.1 :GESTATIONAL AGE DISTRIBUTION AMONG CLINICALAND BLOOD CULTURE POSITIVE SEPSIS

Gestational age	CLINICAL SEPSIS	BLOOD CULTURE POSITIVE SEPSIS

Preterm	188(44.86%)		92(46.70%)	
Term	231(55.13%)		105(53.29%)	
Total	419	p-value 0.03	197	p-value 0.35

Table no 2 :BIRTH WEIGHT AMONG CLINICAL AND BLOOD CULTURE POSITIVE SEPSIS

Birth weight(gms)	CLINICAL SEPSIS	BLOODCULTURE POSITIVE SEPSIS
<1500	105(25.05%)	53(26.9%)
1500-2500	139(33.17%)	69(35.02%)
>2500	175(41.76%)	100(50.76%)
	419	197

Discussion:

GESTATIONAL AGE:

In the present study, in clinical sepsis term 231(55.13%) neonates were more than pre term 188(44.86%) neonates . This was comparable to study conducted by Bhat Y R et al(2011)⁶. However ,Blood culture positivity was comparable in both preterm 92(46.7%) and term(53.29%) neonates. In the study done by Shitaye D et al(2010) preterms were 60%.⁷

BIRTH WEIGHT:

In this study, mean birth weight was 2167±801gms. In the study done by Bhat Y R et al(2011) mean birth weight was 2344.5gms. 6 Among 419 cases of clinical sepsis 105 were <1500gms(25.05%), 139 were between 1500-2500 (33.17%)gms, 175 (41.76%) were >2500 gms. In th study done by Manzoni P et al(2009) ,VLBW neonates were 38.3%.⁸

References:

1. Lawn JE, Cousens S, Zupan J. Four million neonatal deaths: when? where? why? Lancet 2005; 365 : 891 – 900.
2. Save the children, state of worlds new born ; save the children Washington DC 2001
3. Bang AT, Bang RA, Baitute SB, Reddy HM, Deshmukh MD. Effect of home based neonatal care and management of sepsis on neonatal mortality: field trial in rural area. Lancet 1999; 354 : 1955 – 1961.
4. Stoll BJ. The global impact of neonatal infection. Clinical perinatol 1997; 24:1 – 21.
5. Richard E. Behrman, Robert M. Kliegman, Hal B. Jenson, Bonita F. Stanton; Nelson Text Book of Pediatrics. Vol-1, 19th Edition; 629 – 648 Bhat Y R
6. Lewis LE, K E V et al Bacterial isolates of early-onset neonatal sepsis and their antibiotic susceptibility pattern between 1998 and 2004: an audit from a center in India. tal J Pediatr. 2011 Jul 11;37:32. Shitaye D
7. Asrat D, Woldeamanuel Y, Worku B et al Risk factors and etiology of neonatal sepsis in Tikur Anbessa University Hospital, Ethiopia. Ethiop Med J. 2010 Jan;48(1):11-21.
8. Manzoni P, Mostert M, Galletto P, Gastaldo L, Gallo E, Agriesti G, Farina D. Is thrombocytopenia suggestive of organism-specific response in neonatal sepsis? Pediatr Int. 2009 Apr;51(2):206-10.