

# Clinical profile of neonates with early onset sepsis

*by Masayu Ramadhani Polanunu*

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### Clinical profiles of neonates with early onset sepsis

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#### Abstract

**Background** Early-onset sepsis (EOS) remains one of the most common causes of neonatal morbidity and mortality. The clinical presentation in both preterm and term infant had wide variation. There is limited data of it in Dr. Soetomo Hospital, Surabaya.

**Objective** To describe the clinical profile of early onset sepsis of neonates in Dr. Soetomo Hospital, Surabaya.

**Methods** This is a cross-sectional study of neonates, was born in Dr. Soetomo Hospital Surabaya between February to May 2016. The diagnosis is based on a combination of clinical presentation, complete blood count, C-reactive protein and blood cultures.

**Results** 235 neonates were born, 64 neonates were enrolled. Description data were taken such as 41 (64%) born aterm, 23 (36%) preterm. There were 27 (42%) neonates with birth weight >2500g, 33 (52%) neonates with birthweight 1500-2500g, 4 (6%) neonates with birthweight 1000-1500g. The most common mode of delivery was 35 (55%) caesarean section and 28 (44%) born spontaneously. There were 42 (67%) neonates with premature rupture of membrane (PRoM), 13 (20%) neonates with jaundice, 1 (2%) with respiratory distress syndrome (RDS), 22 (34%) with asphyxia. From 64 neonates enrolled, 16 (25%) neonates with early onset sepsis and 48 (75%) neonates with late onset sepsis. Antibiotic given in 2 (13%) neonates. The range length of stay was 2-5 days. The outcome were 14 (88%) neonates alive and 2 (22%) discharge on request.

**Conclusion** Aterm neonates, with normal birth weight and delivered by caesarean section, with history of PRoM and RDS are susceptible of EOS.

**Keywords:** early onset sepsis, neonates, clinical profile

EP-NEO-076

### Comparison between fingertip and new generation pulse oximetry accuracy in screening in the newborn

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#### Abstract

**Background** Pulse oximetry is a noninvasive technique of measuring oxygenation of the blood that is used worldwide to assess critically ill patients, especially in intensive care units, operating rooms and screening for newborn. Its advantages include the early detection of hypoxia and hyperoxia, less frequent need for blood sampling for blood gas analysis.

**Objective** To compare between fingertip than new generation pulse oximetry to screening in the newborn before hospital discharge.

**Methods** The study was conducted in neonatologi room in infants aged 24-72 hours. Pulse oximetry measurements performed in the right hand (preduktal) and feet (postduktal).

**Results** In 30 newborn that evaluate, SpO<sub>2</sub> between fingertip pulse oximetry than new generation are various result, but not statistically significantly meaningful.

**Conclusion** Fingertip pulse oximetry compared to the new generation for early detection of abnormalities in newborn has same statistical result, so the fingertip pulse oximetry can be used as a screening in areas with limited facility.

**Keywords:** pulse oximetry, SpO<sub>2</sub>, screening newborn

### **Clinical profile of neonates with early onset sepsis**

**Masayu Ramadhani Polanunu**, Febrina Pradita, Mahendra Sampurna,  
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Surabaya-Indonesia

#### **ABSTRACT**

**Background:** Early-onset sepsis (EOS) remains one of the most common causes of neonatal morbidity and mortality. The clinical presentation in both preterm and term infant had wide variation. There is limited data of it in Dr. Soetomo Hospital, Surabaya.

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**Conclusion:** Aterm neonates, with normal birth weight and delivered by caesarean section, with history of PRoM and RDS were susceptible of EOS.

**Keywords:** *early onset sepsis, neonates, clinical profile*

#### **Background**

Early-onset sepsis (EOS) remains one of the most common causes of neonatal morbidity and mortality. The clinical presentation in both preterm and term infant had wide variation. There is limited data of it in Dr. Soetomo Hospital, Surabaya.

#### **Study design and settings**

A cross sectional study was conducted from February to May 2016 to describe the clinical profile of early onset sepsis of neonates in Dr. Soetomo Hospital, Surabaya. The diagnosis is based on a combination of clinical presentation, complete blood count, C-reactive protein and blood cultures.

### Examination protocol

Complete blood count and C-reactive protein level were checked from neonates, was born in Dr. Soetomo Hospital Surabaya. Early-onset sepsis (EOS) diagnosis is based on a combination of clinical presentation, complete blood count and C-reactive protein.

### Statistical analysis

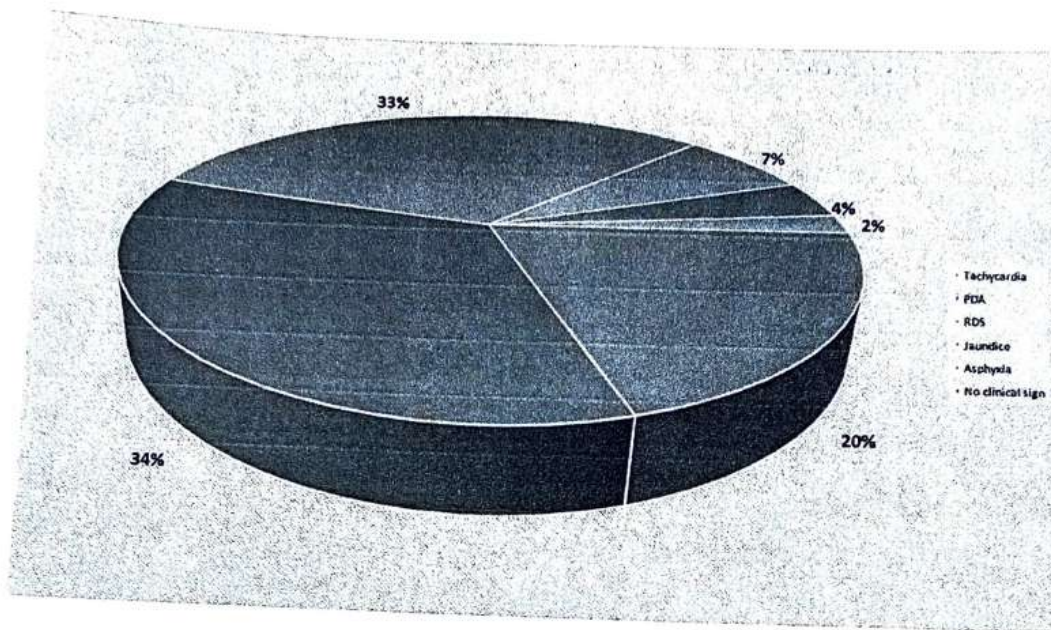
Data was analyzed using the Statistical package for Social Sciences (spss) Version 21 (Armonk, NY: IBM Corp.). The frequency tables (number, percentage) were calculated for all measurements.

### Result

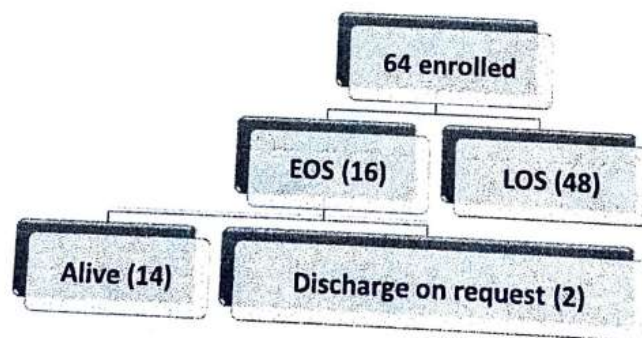
There were 235 neonates were born, 64 neonates were enrolled. Description data were taken such as 41 (64%) born aterm, 23 (36%) preterm. There were 27 (42%) neonates with birth weight >2500g, 33 (52%) neonates with birthweight 1500-2500g, 4 (6%) neonates with birthweight 1000-1500g. The most common mode of delivery was 35 (55%) caesarean section and 28 (44%) born spontaneously (Table 1).

Born	Aterm	41 (64%)
	Preterm	23 (36%)
Birth Weight	≥ 2500g	27 (42%)
	1500-2500g	33 (52%)
	1000-≤1500g	4 (6%)
Mode of delivery	Spontaneous	28 (44%)
	SC	35 (55%)
	Vacuum extractor	1 (1%)
Premature Ruptur of Membrane	PRoM +	42 (67%)
	PRoM -	22 (33%)

There were 42 (67%) neonates with premature rupture of membrane (PRoM), 13 (20%) neonates with jaundice, 1 (2%) with respiratory distress syndrome (RDS), 22 (34%) with asphyxia.



From 64 neonates enrolled, 16 (25%) neonates with early onset sepsis and 48 (75%) neonates with late onset sepsis.



## Discussion

"Suspected sepsis" is one of the most common diagnoses made in the NICU.<sup>1</sup> Before birth, the fetus optimally is maintained in a sterile environment. Organisms causing early-onset sepsis ascend from the birth canal either when the amniotic membranes rupture or leak before or during the course of labor, resulting in intra-amniotic infection.<sup>2</sup> The major risk factors for early-onset neonatal sepsis are preterm birth, rupture of membranes >18 hours, and maternal signs or symptoms of intra-amniotic infection.<sup>3-5</sup> Preterm birth/low birth weight is the risk factor most closely associated with early-onset sepsis.<sup>6</sup> There were 235 neonates were born, 64 neonates were enrolled, 41 (64%) born aterm, 33 (52%) neonates with birthweight 1500-2500g, 35 (55%) was delivery by caesarean section. There were 42 (67%) neonates with premature rupture of membrane (PRoM), 13 (20%) neonates with jaundice, 1 (2%) with respiratory distress syndrome (RDS), 22 (34%) with asphyxia.

In conclusion, aterm neonates, with normal birth weight and delivered by caesarean section, with history of PRoM and RDS were susceptible of EOS.



## REFERENCE

1. Escobar GJ. The neonatal "sepsis work-up": personal reflections on the development of an evidence-based approach toward newborn infections in a managed care organization. *Pediatrics*. 1999;103(1, suppl E):360–373
2. Polin RA, St Geme JW III. Neonatal sepsis. *Adv Pediatr Infect Dis*. 1992;7:25–61
3. Schuchat A, Zywicki SS, Dinsmoor MJ, et al. Risk factors and opportunities for prevention of early-onset neonatal sepsis: a multi-center case-control study. *Pediatrics*. 2000; 105(1 pt 1):21–26
4. Schrag SJ, Hadler JL, Arnold KE, Martell-Cleary P, Reingold A, Schuchat A. Risk factors for invasive, early-onset *Escherichia coli* infections in the era of widespread intrapartum antibiotic use. *Pediatrics*. 2006; 118(2):570–576
5. Martius JA, Roos T, Gora B, et al. Risk factors associated with early-onset sepsis in premature infants. *Eur J Obstet Gynecol Reprod Biol*. 1999;85(2):151–158
6. Stoll BJ, Hansen NI, Sánchez PJ, et al; Eunice Kennedy Shriver National Institute of Child Health and Human Development Neonatal Research Network. Early onset neonatal sepsis: the burden of group B *Streptococcal* and *E. coli* disease continues. *Pediatrics*. 2011;127(5):817–826

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