



CASE REPORT ON BY MRS. D AGE 0 DAYS WITH MODERATE ASPHYXIA AT ROEMANI MUHAMMADIYAH HOSPITAL SEMARANG

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ABSTRACT

Asphyxia neonatorum is a condition that occurs when a baby does not get enough oxygen during the birth process. Asphyxia neonatorum is a condition in which the baby cannot breathe spontaneously and regularly, so it can reduce O₂ and increasing CO₂ which has bad consequences in further life. Many theories state that the neonatal mortality rate reflects the level of health development of a country and the quality of life of the community. One of the causes of infant mortality is asphyxia by 22.7%. In one research journal, Asphyxia is caused by fetal hypoxia in the uterus. Fetal hypoxia occurs due to disruption of the exchange and transportation of oxygen from mother to fetus so that oxygen supply to the fetus decreases and carbon dioxide levels increase so that asphyxia in neonates can cause organ system dysfunction. Based on the results of the assessment that has been done, the complaint Infants born spontaneously, term babies, weak KU, moaning, unable to breathe spontaneously, inactive movements, red body and blue extremities, the baby is hypothermic with a temperature of 35.2^oC. Based on the results of the previous history, the mother gave birth with a history of Premature rupture of membranes. The diagnosis in this case was Moderate Asphyxia with initial treatment of live saving and initial management (warm up, adjust position, inhale mucus, dry and tactile stimulation, adjust position, perform assessment), perform Positive Pressure Ventilation and administer O₂. After treatment Moderate Asphyxia Management at Roemani Semarang Hospital was continued with home visits on July 20, 2022 for newborns for monitoring and providing counseling.

Keywords: *Asphyxia, Neonate*

1. INTRODUCTION

According to the World Health Organization [1] The neonatal mortality rate in Southeast Asian countries is far below the 2030 SDG's target of 12 per 1000 live births, except in Indonesia, which is slightly off 12.4/1000 live births). Indonesia's has decreased by 61% since 1990-2019. More than 60,000 newborns die due to prematurity, asphyxia, and infection. The cause of infant mortality was mostly due to prematurity 34.7%, asphyxia 22.7% and the least caused by measles.

Neonatal Mortality Rate is still a priority in Central Java. The achievement of the target for the Java province in the last 4 years has decreased, namely 6.5 per 1,000 Live Birth in 2017, 6.1 per 1,000 Live Birth 2018. 5.8 per 1,000 Live Birth in 2019 and 5.7 per 1,000 Live Birth in 2015, although this figure is much better than the national target of 24.1/1,000 Live Birth. However, the SDGs target neonatal mortality has not been achieved, namely 12 per 1000 Live Birth [2].

Based on the results of the health service facility activity report, in 2020 the number of

infant deaths that occurred in Semarang City was 145 out of 23,825 live births, so that the Infant Mortality Rate (IMR) was 6.1 per 1,000 Live Birth. Infant mortality will decrease in 2021 to 133 of 21,840 live births. Most neonatal deaths in Semarang are caused by low birth weight 39%, asphyxia 18% and the least due to congenital abnormalities 17% [3].

According to a study conducted by [4], neonates with asphyxia have an increased risk of neonatal death caused by fetal hypoxia in the womb. Fetal hypoxia occurs due to impaired exchange and transport of oxygen from the mother to the fetus, so that the oxygen supply to the fetus decreases and carbon dioxide levels increase. Asphyxia in neonates can cause organ system dysfunction.

Based on the results of a preliminary study conducted at the Roemani Muhammadiyah Hospital in Semarang, there are additions and subtractions every year. In the last 5 years, the incidence of asphyxia in 2016 was 49 cases, 2017 was 48 cases, 2018 was 51 cases, 2019 was 49 cases, and 2021 was 54 cases [5].



2. PATIENT INFORMATION

By Mrs. D, age 0 hours, date of birth July 13, 2022, 17:45 WIB, male gender. Mother's name Mrs. D, age 24 years old, Islam, Javanese ethnicity/nation, high school education, household work, address Jl. Agasthis RT 10/08. Plamongan Indah

3. CLINICAL FINDING

General Condition: Good, Consciousness: Compositentis, HR: 100x/minute, SpO₂: 95%, temperature: 35.20C, BW: 3,200 grams, Apgar score 5-6-8. Physical examination : Nose: Attached O₂, symmetrical, no nostril breathing, Mouth: symmetrical lips, no cyanosis, moist, no labioskisis or labiopalatoskisis abnormalities, clean mouth and tongue. Chest: symmetrical, no clavicle fracture, no crackles or wheezing, chest retraction. Extremities: warm acral, no sidatyl or polydactyl abnormalities Reflexes: Moro: Weak, Root: Weak, Sucking: Weak, Grasping: Weak, Babynsky: Weak, tonic neck: Weak. Supporting examination: When Blood Sugar 116mg/dL.

4. TIMELINE

Progress Data I

Wednesday/13 July 2022, 18:43 WIB

Apgar Score: 5-6-8, monitoring the general condition of the baby such as breathing, movement, crying or not, cyanotic skin or not, evaluation: the baby is in normal condition, monitoring the administration of O₂, evaluation: has been monitored giving O₂ SpO₂ 97% and providing care normal newborn, evaluation: injection of vitamin k 1 mg, eye ointment, umbilical cord care, monitoring of bowel movements and baby gram photos have been carried out.

Progress Data II

Thursday/July 14 2022, at 07.10 WIB

GDS supporting examination: 116mg/dL, monitoring the administration of O₂, evaluation: monitoring the administration of O₂ SpO₂ 98%, monitoring body temperature until stable, evaluation: baby's body temperature 36.5 oC, monitoring HR and RR, evaluation: HR: 123 x/minute RR: 49x/minute, monitor for signs of hyperthermia and hypothermia, maintain baby's personal hygiene by cleaning defecation and urination using cotton swabs and DTT water and changing the umbilical cord every time it is

wet/humid, evaluation: personal hygiene has been maintained in infants, evaluation: sucking (+) , educate how to breastfeed, evaluate: Mother understands with the midwife's explanation and the mother has direct practice with babies, explains umbilical cord care, evaluation: mother understand umbilical cord care.

Progress Data III

Wednesday, July 20, 2022, at 16:10 WIB

When Blood Sugar supporting examination: 116mg/dL, recommends mothers to give exclusive breastfeeding or without giving anything including water for ± 6 months, only breast milk, evaluation: mothers are willing to give exclusive breastfeeding for ± 6 months, recommends mothers to dry their babies in the morning between 07.00 – 09.00 am for ± 10 minutes with the whole body open only using a pamper and eye protection, evaluation: the mother understands the explanation given and the mother is willing to dry her baby, recommends the mother to keep the baby's umbilical cord clean by changing the gauze after every bath or when the gauze is dirty, evaluate: Mother is willing to keep the baby's umbilical cord clean.

5. DIAGNOSTIC CHECK

The supporting examination carried out was a When Blood Sugar examination with a result of 116 g/dL. The diagnosis of this case is Moderate Asphyxia.

The prognosis in this case is good. Journal[6] explained that resuscitation should be started immediately before the 1st minute was counted, efforts to end asphyxia is to resuscitate and provide adequate oxygenation This is in line with the theory[7] Asphyxia baby's prognosis who has been carried out is at risk for experiencing worsening of the respiratory system and even death.

6. THERAPEUTIC INTERVENTION

Perform the haikal technique, namely warm the baby, adjust the position of the baby's head in semi-extension, suck mucus, dry the baby, adjust the position of the baby's head in semi-extension and do a cursory assessment.

Give O₂ to the baby as much as 1 liter times / minute to help the baby breathe. Perform positive pressure ventilation for 20 x 30 seconds with a depth of 20 cm/water to restore the baby's



breathing (after the first 30 seconds the baby cries loudly and moves actively).

7. FOLLOW UP DAN OUTCOME

Management carried out during home visits is to encourage mothers to give exclusive breastfeeding, encourage mothers to dry their babies in the morning between 07.00 - 09.00 am for \pm 10 minutes, teach mothers how to store breast milk correctly and explain to mothers about complete basic immunizations for babies.

8. DISCUSSION

Based on the results of care for newborn cases in the Peristi Room of Roemani Hospital, Semarang, there were cases of spontaneous newborns with a history of PROM delivery with the main problem, namely the baby had moderate asphyxia, the Apgar score was 5-6-8. In addition, the results of the assessment of the baby's temperature obtained a value of 35.2OC, this result indicates that the baby is hypothermic.

Asphyxia in cases by Mrs. D 0 days old PROM is in line with a research journal which stated that of the 40 respondents there were asphyxia babies with a history of premature rupture of membranes at term as many as 27 babies (67.5%) and asphyxia babies with a history of premature rupture of membranes at term as many as 13 babies (32.5%). The results of this study indicate that there is a relationship between PROM (premature rupture of membranes) and the incidence of asphyxia in newborns[8].

The incidence of asphyxia in newborns is also related to the incidence of hypothermia which states that asphyxia can cause an imbalance in body temperature resulting in hypothermia. Hypothermia can occur because the fetus is deprived of oxygen and carbon dioxide levels increase so that the oxygen supply in the blood decreases which causes the risk of body temperature imbalance (hypothermia).[9]

9. CONCLUSION

Management of Moderate Asphyxia in newborns is done by doing VTP (Positive Pressure Ventilation) and giving O₂ and followed by repeat visits.

10. INFORMED CONSENT

Informed consent has been done on 13.07.2022 and the mother of the patient is willing to be a respondent.

11. AUTHORS' CONTRIBUTION

All authors contributed to the creation of the case report. Rika Maria carries out research and investigation processes, especially experiments or data/evidence collection. Maria Ulfah Kurnia Dewi formulates ideas, formulations or overall research goals and objectives. Lia Mulyanti performs management activities to annotate, detect and improve data and research data management. Nuke Devi Indrawati applies statistics, mathematics, computing or other formal techniques to analyze study data.

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