KESANS : **International Journal Of Health and Science**
e-ISSN : 2808-7178, p-ISSN : 2808-7380
Web : http://kesans.rifainstitute.com/index.php/kesans/index

Neonatal External Description in Undiagnosed Placenta Accreta Referral Patients

Stivany Ilvira, Ernawati, Pudji Lestari
Obstetrics Study Program, Department of Obstetrics Gynecology hospital dr. Soetomo, Health Sciences Public Health-Preventive Medicine, Faculty of Medicine, University Airlangga, Indonesia
stivany.ilvira-2018@fk.unair.ac.id, ernawati@fk.unair.ac.id, pudjilestari70@fk.unair.ac.id

Article Information
Submitted: **8 February 2022**
Accepted: **4 February 2022**
Online Publish: **20 February 2022**

Abstract
Background: Cases of placenta accreta are increasing every year. Placenta accreta has an impact on maternal and neonatal externals. There are cases of placenta accreta that go undiagnosed during pregnancy called undiagnosed. This study aims to find out the neonatal exterior in undiagnosed placenta accreta referral patients at dr. Soetomo Hospital in 2016-2020. Method: This research method is descriptive with an observational approach. The study sample was the entire infant of a patient with a referral case of undiagnosed placenta accrete using the total sampling technique. The variable studied was the neonatal exterior. Results: Samples that met the inclusion criteria of 27 infants. The termination age of preterm pregnancy was 8 (29.6%) patients, BBLR as many as 6 (22.2%) infants, female sex (55.6%), babies with SGA as many as 2 (7.4%) babies and LGA as many as 1 (3.7%) baby. APGAR scores less than 7 as many as 6 (22.2%) babies in the first minute and 2 (7.4%) babies in the fifth minute. Nicu resuscitation and care measures were 14 (51.9%) infants and 2 (7.4%) deaths. Conclusion: Neonatal discharge in patients undiagnosed placenta accreta includes potential premature birth, BBLR, resuscitation measures, NICU care, neonate mortality rate of 7.4%. There needs to be an improvement in the quality of ANC, especially in early detection of risk factors so that undiagnosed cases are reduced and better outcomes are obtained.

Keywords: undiagnosed; outcome; neonatal;

How to Cite **Stivany Ilvira, Ernawati, Pudji Lestari/ Neonatal External Description in Undiagnosed Placenta Accreta Referral Patients. Vol. 1, No. 5, February 2022**
DOI https://doi.org/10.54543/kesans.v1i5.60
e-ISSN/p-ISSN 2808-7178 / 2808-7380
Publish by Rifa'Isntitute

Introduction

Placenta accreta is a condition of placental implantation disorder that attaches to the myometrium wall invasively. This is due to the absence of a basalis deciliary layer and *the Nita Buch* layer does not develop perfectly. Thus, there is attachment of some or all of the placental cotyledon to the uterine wall (Cunningham *et al.* , 2014) . Cases of placenta accreta are increasing every year. According to data obtained from dr. Soetomo Hospital Surabaya there was an increase in the incidence of placenta accreta by 4% within 5 years (2013-2018) (Akbar and Aryananda, 2019). One study put the incidence of placenta cases at 2.49 per 1000 births (Bluth *et al.* , 2020) . Another study mentioned an increase in the prevalence of placenta accreta from 0.17 to 0.79 per 1000 births within 5 years (Jauniaux, Collins and Burton, 2018). This case of placenta accreta has an impact on the condition of the mother and baby. The main maternal externality in the mother is bleeding, blood transfusion, and hysterectomy. While neonatal external in infants in the form of premature birth, BBLR, and decreased APGAR score 5 minutes after birth (Balayla and Bondarenko, 2013).

Many cases of placenta accreta are undiagnosed at antenatal. According to Erfani 2019, 54 (22%) of the 243 placenta accreta patients were *unexpected* or *undiagnosed* (Erfani *et al.* , 2019) . One of the factors that causes *undiagnosed* cases is that there is misdiagnosis at antenatal times so that the patient is not detected accreta and is not referred to tertiary fasces early (Nieto-Calvache *et al.* , 2021) . An important role in undiagnosed cases is to be careful in the early detection of risk factors and assistance for pregnant women to perform ultrasound examinations. This can be done in primary facilities both by midwives and general practitioners as an ANC service provider.

In the case of placenta accreta, labor should be performed in a tertiary hospital with adequate team and facilities. But in the case of *undiagnosed,* labor is not carried out in tertiary hospitals, so labor is not carried out by an adequate team and planned preparation. Team readiness and poor planning can have an effect on neonatal outcomes. Therefore, this study was conducted to find out how neonatal discharge in patients' referral undiagnosed placenta accreta at dr. Soetomo Hospital Surabaya in 2016-2020. The purpose of this study is to find out the external picture of neonatal in patients' referral of *undiagnosed* placenta accreta, so that providers can be more anticipatory to the possibility of cases of accreta by improving the quality of ANC and early detection.

Method

This study is an observational descriptive study conducted at dr. Soetomo Hospital Surabaya Indonesia in July - September 2021. The hospital is one of the tertiary referral hospitals of placenta accreta cases in Indonesia. The population and samples in this study were all newborns of patients with *undiagnosed placenta accreta* referral cases at dr. Soetomo Hospital Surabaya in 2016-2020. The sampling technique in this study used the total *sampling* technique. The undiagnosed case of placenta

accreta in question is a referral patient who has been taken into action (SC or Pervaginam) in a previous hospital and was not diagnosed with placenta accreta before. The variables in this study were the external or neonatal *outcomes* of patients' referrals of *undiagnosed* placenta accreta. These measures include birth weight, body length, gender, Apgar Score, termination age, SGA and LGA, resuscitation measures, NICU treatment, and death.

Table 1. Operational Definition of Variables

Variable	Operational Definition
Birth Weight	Weight of the baby weighed within 1 hour after birthweighed within 1 hour after birth
Body Length The	length of the baby's body
Gender	Biological differences between men and women as seen from the genitals
Apgar Score	Value of the scoring system which is used to assess newborns 1 minute and 5 minutes after birth (*Appearance, Pulse, Grimace, Activity, Respiration*)
Age of Termination of Pregnancy	Maternal gestational age at the time of delivery of the baby
SGA (*Small for Gestational Age*)	Infants born with birth weight less than 10 percentile according to thecurve *Indonesian Fetal Growth*
LGA (Large For Gestational Age)	Babies born with a birth weight of more than 90 percentile according to thecurve *Indonesian Fetal Growth*
Resuscitation	measures Emergency measures to restore respiratory arrest and cardiac arrest
NICU	care Neonatal intensive care unit
death	Cessation the body's activity processes include brain function, data heart rate, blood pressure, and respiration

Research instruments use data collection sheets. The study was conducted by taking data from the medical records of patients' referrals of undiagnosed placenta accreta in 2016-2020. Data analysis is used in the form of univariate analysis, which aims to describe and classify research variables and determine the distribution of frequencies and percentages of data. This research uses the principle of *Anonymity* which is not to include the original name on the instrument and Confidentiality which

guarantees the confidentiality of the results of the study. This research obtained ethical feasibility from the ethics commission of Dr. Soetomo Hospital Surabaya.

Research Results

Based on medical record data, the number of patients referral cases *undiagnosed* placenta accreta as many as 30 patients. The number of samples that met the inclusion criteria was 27 (90%) out of 30 patients. Therefore, the data analyzed as many as 27 patients.

Table 2. Neonatal Discharge of *Lottery referral* patients of placenta accreta

Variable	n (%)	$\bar{x}$ ± SD
Gestational Termination Age (weeks)		36.6 ± 2.8
Preterm (< 37)	8 (29.6%)	
Aterm (37 - 42)	19 (70.4%)	
Birth Weight (gram)		2624 ± 575.9
BBLR	6 (22.2%)	
Usual	21 (77.8%)	
Body Length (cm)		46.2 ± 3.9
SGA	2 (7.4%)	
LGA	1 (3.7%)	
Gender		
Man	12 (44.4%)	
Woman	15 (55.6%)	
Apgar Score 1 minute		6.7 ± 1.6
<7	6 (22.2%)	
≥7	21 (77.8%)	
Apgar Score 5 minutes		7.8 ± 1.7
<7	2 (7.4%)	
≥7	25 (92.6%)	
Act of Resuscitation	14 (51.9%)	
NICU Treatment	14 (51.9%)	
Death	2 (7.4%)	

Based on Table 2, gestational age at termination is average 36-37 weeks. In this study, 8 (29.6%) babies were born at the gestational age of less than 37 weeks. The average weight of a newborn is 2,624 grams. Babies with low birth weight (<2500 grams) as much as 6 (22.2%). The lowest body weight is 700 grams and the highest is 3300 grams. The average length of the baby's body is 46.2 cm with the lowest value of 34 cm and the highest value of 52 cm. There are 2 (7.4%) babies with SGA and 1 (3.7%) have l ga. The sex of a baby boy was 12 (44.4%) infants, and a female was 15 (56.6%). Apgar's average score after 1 minute and 5 minutes of birth was 6.7 ± 1.6 and 7.8 ± 1.7. Infants who needed resuscitation and NICU care were 14 (51.9%) infants. Neonate mortality was 2 (7.4%) infants.

Discussion

Based on the results of the study, the gestational age of the mother during labor averaged at 36-37 weeks. These results are in accordance with the research of Zhang *et al.* , (2017), Kassem and Alzahrani, (2013) and Bluth et *al.* (2020) who reported the average age of placenta accreta patients terminated their pregnancy at 37 weeks. These results do not match the research of Seet *et al.* (2012) which mentions gestational age during childbirth in patients with average accreta at 35 weeks for the depth of accreta invasion and 33 weeks for the depth of perreta and incrreta invasion. In this study, 8 (29.6%) of 27 babies were born at preterm age (less than 37 weeks). These results are in line with baldwin *et al.* (2020) reported premature births in placenta accreta patients as much as 11.2% and fewer than those born at a thermal age. Research Seet *et al.* (2012) reported that delivery of placenta accreta is more widely done at the gestational age of less than 37 weeks. Termination of pregnancy at less than 37 weeks of gestation for placenta accreta patients aims to reduce the risk of bleeding a lot, because the more term the gestational age, the higher the risk of bleeding (Rac *et al.* , 2015) . But in undiagnosed *cases,* placenta accreta is not detected during pregnancy. So that labor is done mostly at the age of a term pregnancy, because the provider does not know if the patient has accreta. In this study, patients *undiagnosed* placenta accreta who experienced preterm labor were caused by antepartum bleeding conditions, KPP (Premature Ruptured Amniotic Fluid), and PEB (Severe Preeclampsia). Therefore, labor is carried out at gestational age less than 37 weeks. Antepartum bleeding in women suspected of accreta causing emergency labor is performed at 36 weeks gestation (Warshak *et al.* , 2010).

Based on the results of the study, babies of *undiagnosed placenta accreta* referral patients were born with an average birth weight of 2,624 grams. This is in accordance with bluth et *al research.* (2020) who reported the average birth weight of babies from placenta accreta patients amounted to 2,750 grams. Research Seet *et al.* (2012) also mentioned an average birth weight of infants of 2,563 grams at the depth of accreta invasion and 2,266 grams at the depth of incremental invasion and perreta. Kassem and Alzahrani's research, (2013) also mentioned an average birth weight of 2700 grams. Unlike the research of Zhang et *al.* (2017) which mentions the average birth weight of babies from placenta accreta patients amounted to 3,022 grams. Research Kandil *et al.* (2019) also reported an average birth weight of 2,847 grams. In this study, 6 (22.2%) babies who have a low birth weight of less than 2500 grams. These results are in line with the research of Seet *et al.* (2012) who reported 34 (39.5%) of the 86 accreta patients had a low birth weight (500-2500 grams). Abnormal placental invasion makes the function of the placenta impaired is suspected to affect fetal growth. It affects the birth weight of the baby from placenta accreta patients, especially in *undiagnosed* cases (Gielchinsky *et al.* , 2004) .

In this study, 2 (7.4%) of 27 infants *in undiagnosed* placenta accreta had SGA and 1 (3.7%) of 27 babies had LGA. These results are in accordance with kassem and alzahrani research, (2013) which said 1 (6.7%) of 15 babies experience SGA. Baldwin

et al. (2020) also mentioned 5.7% of babies experience SGA and 11.6% experience LGA. Research Seet *et al.* (2012) mentions 11.7% of babies from accreta, incremental, and perreta have SGA. Gielchinsky *et al.* (2004) reported more babies experiencing SGA in accreta patients by 42%. The incidence of SGA in neonates is associated with low birth weight and is not age-appropriate. Low birth weight is associated with reduced function of placenta accreta due to abnormal placental invasion (Gielchinsky *et al.* , 2004) .

Based on the results of the study, the female sex (55.6%) is more than the male (44.4%). These results are in accordance with the research of Gielchinsky *et al.* (2004) who reported more female sex than men. These results are different from baldwin et *al.'s research.* (2020) which mentions the sex of male babies more than women.

In this study, the average score of APGAR score 1 minute is 7 and APGAR score 5 minutes which is 8. There were 7 (22.2%) of the 27 infants who scored less than 7 on apgar score 1 minute and 2 (7.4%) out of 27 babies on APGAR score 5 minutes. This result showed an increase in the value of APGAR score from the first minute to the fifth minute. The results of this study are in accordance with the research of Zhang *et al.* (2017) who reported that apgar infant score scores from accreta patients increased from the first minute to the fifth minute, but the difference in the average value of APGAR score in the study was higher at 9. APGAR scores of less than 7 were associated with gestational age during labor, the baby's birth weight, and the condition of the accompanying circumcizor in pregnancy. In this study, babies who had APGAR scores in the first minute most had low birth weight, premature birth, accompanied by the mother's circumcision conditions namely antepartum bleeding, placenta previa, KPP, and meconial amniotic acid that is at risk of the baby experiencing asphyxia. The increase in apgar score depends on the provider's handling of the baby after the assessment in the first minute.

14 (51.9%) of the 27 babies needed resuscitation and NICU care. This result is more than the study of Baldwin *et al.* (2020) that 26.7% of infants need resuscitation. Then research Bluth *et al.* (2020) also mentions 41% of infants need NICU care. Research Seet *et al.* (2012) also reported 46.3% of infants needed NICU care. In this study, resuscitation and NICU treatment were associated with premature birth, low birth weight, and maternal pregnancy complications. This condition makes the risk of the baby experiencing asphyxia higher, so resuscitation measures are needed. NICU care is needed because the baby needs intense monitoring.

In this study, 2 (7.4%) of 27 infants *of undiagnosed* placenta accreta patients died. These results are in line with the research of Seet *et al.* (2012) which mentions infant mortality in placenta accreta patients by 9.95%. Other studies say more is 33.3% and fewer is 1% (Gielchinsky *et al.* , 2004; Kandil *et al.* , 2019) . In this study, premature birth and BBLR were factors that led to the possibility of neonate death. In this *undiagnosed* case, the baby who died comes from the mother with the condition of the circumciser that is antepartum bleeding. Antepartum bleeding makes the mother have to get the termination of pregnancy immediately at the gestational age that is still preterm.

Gestational age that is still not term makes the baby must be born before the time that should and potentially occur BBLR. The baby's very low birth weight makes the baby's condition less stable and it is difficult to survive help without intensive care equipment and even death.

Conclusion

The study concluded that neonatal discharge in *undiagnosed placenta accreta* referral patients includes potential premature birth, low birth weight, requiring resuscitation measures and NICU care. Neonatal mortality rate in infant patients undiagnosed placenta accreta is 7.4%. It is important for providers in primary health facilities to improve the quality of ANC, especially in early detection and screening of risk factors for placenta accreta so that mothers suspected of having accreta can go into labor at tertiary referral hospitals and get better neonatal *outcomes.* This research certainly has limitations, namely only displaying the distribution of data frequencies, average values and only using medical record data materials. Therefore, there needs to be further research on placenta accreta especially in neonatal cases undiagnosed with retrospective methods with interviews and analytical methods.

References

Akbar, M. I. A. and Aryananda, R. A. (2019) 'Tekhnik Operasi Konservatif pada Invasi Plasenta Abnormal (Abnormally Invasive Placenta / AIP)', (March), pp. 1–12.

Balayla, J. and Bondarenko, H. D. (2013) 'Placenta accreta and the risk of adverse maternal and neonatal outcomes', *Journal of Perinatal Medicine*, 41(2), pp. 141–149. doi: 10.1515/jpm-2012-0219.

Baldwin, H. J. *et al.* (2020) 'Outcomes of Subsequent Births After Placenta Accreta Spectrum', *Obstetrics and gynecology*, 136(4), pp. 745–755. doi: 10.1097/AOG.0000000000004051.

Bluth, A. *et al.* (2020) 'Placenta accreta spectrum disorders—experience of management in a German tertiary perinatal centre', *Archives of Gynecology and Obstetrics*, (0123456789). doi: 10.1007/s00404-020-05875-x.

Cunningham, F. G. *et al.* (2014) *Williams OBSTETRICS 24th Edition, McGraw-Hill Education*. McGraw-Hill Education.

Erfani, H. *et al.* (2019) 'Maternal outcomes in unexpected placenta accreta spectrum disorders: single-center experience with a multidisciplinary team', *American Journal of Obstetrics and Gynecology*, 221(4), pp. 337.e1-337.e5. doi: 10.1016/j.ajog.2019.05.035.

Gielchinsky, Y. *et al.* (2004) 'Perinatal outcome of pregnancies complicated by placenta accreta', *Obstetrics and Gynecology*, 104(3), pp. 527–530. doi: 10.1097/01.AOG.0000136084.92846.95.

Jauniaux, E., Collins, S. and Burton, G. J. (2018) 'Placenta accreta spectrum: pathophysiology and evidence-based anatomy for prenatal ultrasound imaging', *American Journal of Obstetrics and Gynecology*, 218(1), pp. 75–87. doi: 10.1016/j.ajog.2017.05.067.

Kandil, M. A. S. *et al.* (2019) 'Maternal and neonatal outcomes of placenta accreta: a descriptive case series study', *Menoufia Medical Journal*, 32(1), pp. 212–216. doi: 10.4103/mmj.mmj.

Kassem, G. A. and Alzahrani, A. K. (2013) 'Maternal and neonatal outcomes of placenta previa and placenta accreta: Three years of experience with a two-consultant approach', *International Journal of Women's Health*, 5(1), pp. 803–810. doi: 10.2147/IJWH.S53865.

Nieto-Calvache, A. J. *et al.* (2021) 'Lack of experience is a main cause of maternal death in placenta accreta spectrum patients', *Acta Obstetricia et Gynecologica Scandinavica*, 100(8), pp. 1445–1453. doi: 10.1111/aogs.14163.

Rac, M. W. F. *et al.* (2015) 'Placenta Accreta and Vaginal Bleeding According to Gestational Age at Delivery', 125(4), pp. 808–813. doi: 10.1097/AOG.0000000000000674.

Seet, E. L. *et al.* (2012) 'Placenta accreta: Depth of invasion and neonatal outcomes', *Journal of Maternal-Fetal and Neonatal Medicine*, 25(10), pp. 2042–2045. doi: 10.3109/14767058.2012.678429.

Warshak, C. R. *et al.* (2010) 'Effect of predelivery diagnosis in 99 consecutive cases of placenta accreta', *Obstetrics and Gynecology*, 115(1), pp. 65–69. doi: 10.1097/AOG.0b013e3181c4f12a.

Zhang, D. *et al.* (2017) 'Risk factors, outcome and management survey of placenta accreta in 153 cases: A five-year experience from a hospital of Shanghai, China', *International Journal of Clinical and Experimental Medicine*, 10(8), pp. 12509–12516.