

FREQUENCY OF MALPRESENTATION IN PATIENTS PRESENTING WITH POLYHYDRAMNIOS DURING PREGNANCY AT TERTIARY CARE HOSPITAL

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INTRODUCTION

Polyhydramnios is a pathological excess of amniotic fluid volume (AFV) in pregnancy.¹ It represents a high-risk obstetric condition with increased perinatal and maternal morbidity and mortality due to a higher incidence of intrauterine fetal demise, preterm labor, premature rupture of membranes, cord prolapse, fetal macrosomia, breech presentation, cesarean delivery, postpartum hemorrhage.^{2,3} In pregnancies affected by polyhydramnios, approximately 20% are associated with congenital anomalies; however, 60% to 70% are idiopathic with no identifiable underlying cause.¹ Polyhydramnios is caused by a disruption of the AFV equilibrium, which under normal circumstances balances fluid production and absorption.¹ The clinical presentation and severity of polyhydramnios depend on the extent of excess AFV and the underlying cause. The diagnosis is made by ultrasound with a single deepest measure fluid pocket >8cm and amniotic fluid index >25cm.⁴ The most common cause of polyhydramnios is idiopathic; however, this remains a diagnosis of exclusion after other causes have been ruled out.¹ Fetal gastrointestinal obstruction is the most common fetal cause of polyhydramnios due to the inability of amniotic fluid absorption. Other fetal causes include

intrapartum infections (ToRCH infections), chromosomal abnormalities, urogenital disorders, and neuromuscular disorders.^{1,2} Malpresentation is abnormal positions of the vertex of the fetal head, using the occiput as a reference point relative to the maternal pelvis.⁵ Malpresentations are all presentations of the fetus other than vertex, including the breech presentation, transverse and oblique lie. Spontaneous vaginal delivery is most common when a cephalic-presenting fetus is in the occiput anterior position.⁶ Malpresentation is estimated to occur in 5% of all deliveries and is an essential cause of the high cesarean section rate.⁶ A study by Qadir M et al. has shown that the frequency of malpresentation was 7.88% in pregnant women with polyhydramnios.⁷ Another survey has demonstrated that the frequency of malpresentation was 14% in pregnant women with polyhydramnios.⁸ Polyhydramnios is an important obstetric amniotic fluid complication. Our study will estimate the frequency of malpresentation in pregnant women with polyhydramnios to provide a database to the clinicians to formulate appropriate strategies to cope with this condition, an understanding of the impact of this condition on the fetus, which can be effectively managed if early detection and regular follow-up are carried out.

ABSTRACT

OBJECTIVES

To determine the frequency of malpresentation in pregnant women with polyhydramnios.

METHODOLOGY

This Cross-Sectional Study was conducted at the Department of Obstetrics and Gynecology of Lady Reading Hospital, Peshawar, from March 2021 to September 2021. A total of 175 pregnant women with polyhydramnios were included in the study. Ultrasound was done to make a diagnosis of malpresentation.

RESULTS

The age range of pregnant women in this study was from 18-40 years with a mean age of 31.137±3.67 years, mean gestational age of 34.022±2.78 weeks, mean parity of 2.537±1.69 and mean AFI level was 29.017±2.32 cm. A previous history of malpresentation was seen in 25.7% of patients. Malpresentation was observed in 10.3% of patients. The previous history of malpresentation and polyhydramnios had strong statistical significance with current malpresentation ($p < 0.01$).

CONCLUSION

With the timely diagnosis of polyhydramnios with documentation on ultrasound by an expert radiologist and clinical examination by a gynaecologist, malpresentation can be reduced significantly by prompt treatment.

KEYWORDS: Pregnancy, Polyhydramnios, Fetal Malpresentation

METHODOLOGY

This Cross-Sectional Study was conducted in the Department of Obstetrics and Gynecology by using a non-probability consecutive sampling technique at Lady Reading Hospital, Peshawar, from March 2021 to September 2021. The sample size of 175 was calculated using WHO sample size software with a 95% confidence interval, 4% margin of error, and expected frequency of malpresentation by 7.88% in pregnant women with polyhydramnios.⁷ Women aged 18 to 40 years, singleton pregnancy on ultrasound, period of gestation > 20 weeks on dating scan, and any parity with polyhydramnios (AFI>25cm) on scan were included in our study. While those pregnant women having uterine abnormalities like leiomyomas or uterine septa on ultrasound, placenta previa on ultrasound and H/o Platypelloid and android pelvis were excluded from this study. Patients fulfilling the inclusion criteria were included in the study after approval from the ethical committee. Informed consent was taken from the patient. Basic Demographics information like patient, gestational age, parity, and AFI levels were noted. The clinical examination included a detailed general physical analysis and per abdominal, obstetrical examination. An expert radiologist did an ultrasound to make a diagnosis of malpresentation.

RESULTS

The age range of pregnant women in this study was from 18 to 40 years with a mean age of 31.137±3.67 years, mean gestational age of 34.022±2.78 weeks, mean parity of 2.537± 1.69, and mean AFI level was 29.017±2.32 cm. Multigravidas were 49% and 59.9% were grand multigravida. The previous history of malpresentation was seen in 25.7% of patients, as shown in (Table-2). Malpresentation was observed in 10.3% of patients, as shown in (Table-3). According to our study, the commonest anomaly was CNS anomalies, i.e., anencephaly (13%) and hydrocephaly (5.3%). The previous history of malpresentation and polyhydramnios had a strong statistical correlation with current malpresentation.

Table 1: Frequency of Previous Malpresentation

Previous history of malpresentation	Frequency(n)	%Age
Yes	45	25.7%
No	130	74.3%
Total	175	100%

Table 2: Frequency of Current Malpresentation

Previous history of malpresentation	Frequency(n)	%Age
Yes	18	10.3%
No	157	89.7%
Total	175	100%

Table 3: Using the Chi-Square Test to Calculate the P-Value.

Malpresentation	P-Value
Gestational age in weeks	0.408
Parity	0.243
AFI level in centimeter	<0.01
Previous history of malpresentation	<0.01

DISCUSSION

The prevalence of fetal congenital anomalies in polyhydramnios was 31.54% in our study, comparable to that of Tariq S. et al., who observed this figure as 31.7%.⁸ Our study found that CNS abnormalities, such as anencephaly (13%) and hydrocephaly (5.3%), were the most prevalent. First and second-trimester ultrasounds are quite effective in detecting neural tube abnormalities, which has the advantage of allowing for early termination. In their analysis of 14573 polyhydramnios patients, Chaurasia S et al. found that the same abnormalities were most frequently present.¹⁰ According to our study, polyhydramnios was most frequently observed in women between 31 and 40 years, followed by those between 18 and 30. The age range of 20 to 29 years reported the second-highest prevalence of polyhydramnios (53%) after the age range of 30 to 39 years, according to Fawad A et al. Likewise, another researcher noted that 51% of patients were between 31 and 40 years old.^{9,10} 59.9% of the patients in another study were multigravidas, compared to 49% of our cases¹¹. Likewise, 57% were multigravidas in a study by Chaurasia S et al.¹⁰ This figure was 16.6% in an Indian study¹⁰ but 2.9% in another study.¹¹ A study also reported a high incidence of preeclampsia in polyhydramnios.¹² Mathew et al. also reported a high incidence of anemia.¹³ In contrast, diabetes was seen in 10% of cases in our study and 8.3% by Rajgiri et al. On the contrary, diabetes was seen in 24.4% of cases.^{11,14} Regarding the complications during pregnancy and delivery, Preterm labor was most common (11.8%) followed by Pre-labour Rupture of Membranes (10%) and malpresentation in 7.88% of cases. Preterm labor was seen in 16.3% and 16.5% of cases in the other two studies followed by PROM in 5% of cases and malpresentation in 6.6% of subjects.^{11,15,10} Postpartum hemorrhage was observed in 5% of our cases and was in the same incidence in a study by another researcher.¹⁶ The fetal outcome of our study compared to that of Rajgiri et al. where 5% intrauterine deaths and stillbirths were seen, whereas we observed 15% intrauterine deaths and 10% stillbirths.¹⁰ Akram H et al. reported an 18% incidence of intrauterine deaths.^{17,18}

LIMITATIONS

There were several limitations in our study. First, only

Lady Reading Hospital was taken as the study place. Including other hospitals from the same locality could have helped determine the prevalence and outcome of this condition in this area. Due to affordability issues, karyotyping, an important part of the workup, could not be done. Thirdly, the neonates were not followed. Follow-up of such babies could have revealed some undetected anomalies at delivery time.

CONCLUSIONS

Timely diagnosis of the polyhydramnios by a consultant radiologist with proper ultrasound and clinical obstetrics examination documentation, early referral for better workup and termination if needed, and good labor management at any gestation can reduce significant morbidity from polyhydramnios. Awareness amongst the masses regarding good antenatal care should be emphasized.

CONFLICT OF INTEREST: None

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REFERENCES

1. Hamza A, Herr D, Solomayer EF, Meyberg-Solomayer G. Polyhydramnios: causes, diagnosis and therapy. *Geburtshilfe Frauenheilkd.* 2013;73(12):1241-6.
2. Luo QQ, Zou L, Gao H, Zheng YF, Zhao Y, Zhang WY. Idiopathic polyhydramnios at term and pregnancy outcomes: a multicenter observational study. *J Matern Fetal Neonatal Med.* 2017;30(14):1755-9.
3. Kollmann M, Voetsch J, Koidl C, Schest E, Haeusler M, Lang U, et al. Etiology and perinatal outcome of polyhydramnios. *Ultraschall Med.* 2014;35(4):350-6.
4. Dashe JS, Pressman EK, Hibbard JU. SMFM consult series #46: evaluation and management of polyhydramnios. *Am J Obstet Gynecol.* 2018;219(4):B2-B8.
5. McCowan LM, Figueras F, Anderson NH. Evidence-based national guidelines for the management of suspected fetal growth restriction: comparison, consensus, and controversy. *Am J Obstet Gynecol.* 2018;218(2S):S855-S868.
6. Celik M, Ergin A. The effect on pregnant women's prenatal attachment of a nursing practice using the first and second Leopold's maneuvers. *Jpn J Nurs Sci.* 2020;17(2):e12297.
7. Qadir M, Amir S. Polyhydramnios; fetomaternal outcome of polyhydramnios; a clinical study in a tertiary care institute. *Professional Med J.* 2017;24(12):1889-93.
8. Tariq S, Cheema S, Ahmad A, Tarique N. Polyhydramnios; Study of causes and fetal outcome. *Professiona; Med j* 2010; 17(4): 660- 4.
9. Fawad A, Danish N. Frequency, causes and outcome of polyhydramnios. *J Med Sci* 2008; 6(2): 106- 9.
10. Chourasia S, Agarwal J, Badole M. Clinical study to evaluate the maternal and perinatal outcome of pregnancies with polyhydramnios. *J Evol Med Dent Sci* 2013; 2(41): 7972- 7.
11. Rajgiri AA, Borkar KR, Gadge AM. A clinical study of fetomaternal outcome in pregnancy with polyhydramnios. *Int J Rep Contracep Obstet Gynecol* 2017; 6(1): 145-8.
12. Amitai A, Wainstock T, Sheiner E, Walfisch A, Landau D, Pariente G. The association between pregnancies complicated with isolated polyhydramnios or oligohydramnios and offspring long-term gastrointestinal morbidity. *Arch Gynecol Obstet.* 2019;300(6):1607-12.
13. Matthew M, Saquib S, Rizvi SG. Polyhydramnios: Risk factors and outcome. *Saudi Med J* 2008; 29(2): 256- 60.
14. Coggins AS, Gomez E, Sheffield JS. Pulmonary embolism and amniotic fluid embolism. *Obstet Gynecol Clin North Am.* 2022;49(3):439-60.
15. Kazemi S, Pazandeh F, Soleimani F, Kazemnejad A, Kiani Z, Azimi N, Mokhtariyan T. Pregnancy Outcomes of Idiopathic-Polyhydramnios With Normal Ultrasound. *Acta Medica Iranica.* 2019:624-5.
16. Yefet E, Ben Shmuel Y, Nachum Z. The association between polyhydramnios and CMV infection-retrospective cohort study. *The Journal of Maternal-Fetal & Neonatal Medicine.* 2021 Nov 17;34(22):3716-22.
17. Akram H, Rana T. Increasing severity of polyhydramnios; a risk factor for congenital malformation. *Biomedica* 2006; 22: 9-11
18. Kaur EJ, Haq J. Maternal and Fetal Outcomes in Polyhydramnios. *Gyno. & Obstet.* 2022;12.

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