

DID SEVERITY OF POLYHYDRAMNIOS AFFECT MODE OF DELIVERY?

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ABSTRACT

Background: In Pakistan, the incidence of polyhydramnios is 2.4%. The objectives of this study were to find out the frequency of severity of polyhydramnios and the frequency of different modes of delivery in pregnancies with polyhydramnios.

Material & Methods: This cross sectional study was done in Department Obstetrics and Gynaecology, Khyber Teaching Hospital, Peshawar, from July 2010 to December 2011. Inclusion criterion was patients with pregnancies of more than 26 weeks of gestation with ultrasonographically confirmed polyhydramnios. Patients with twin pregnancies, fibroid uterus, any abdominal or gynecological malignancies were excluded from the study. Detail history was taken, per abdominal and per vaginal examinations were performed. Polyhydramnios were confirmed ultrasonographically and categorized as mild, moderate or severe on the basis of amniotic fluid index. Patients were followed till the end of labour.

Results: The total number of patients was 532. Mean age of the patients was 30.30 ± 6.28 (20-42) years. The mean age of gestational amenorrhoea was 35.6 ± 3.35 (28-41) weeks. The number and age% of mild polyhydramnios was 304 (57.5%), of moderate 123 (23.1%) and of severe polyhydramnios 105 (19.7%). Overall in 532 case, normal vaginal delivery was done in 423 (79.4%), instrumental delivery in 48 (9.1%) and cesarean section was performed in 61 (11.5%) cases. Normal vaginal delivery was the most common mode of delivery among the entire study population.

Conclusion: Normal vaginal delivery was the commonest mode of delivery in any grade of severity of polyhydramnios.

KEY WORDS: Polyhydramnios, Obstetric delivery, Cesarean section.

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INTRODUCTION

Amniotic fluid is defined as "the fluid that surrounds the baby in uterus".^{1,2} It cushions and protects the baby. It is technically defined as "deepest vertical pool (DVP) of liquor devoid of cord or fetal limbs measuring 8 cm or more or the amniotic fluid index (AFI) above 95th centile for gestational age".^{3,4} Normal AFI is considered up to 20 cm, while 20 to 24 cm is taken as borderline.⁴

Clinical diagnosis can be suspected when patients present with abdominal discomfort and abnormally large fundal height.⁵ Subsequent ultrasound confirms the presence of abnormally in-

creased amniotic fluid. Several studies have suggested that the incidence of polyhydramnios ranges from 1-3% but most cases are not associated with any significant sequel and are under reported.⁵⁻⁹ A study done in Pakistan, chronic polyhydramnios has the incidence of 2.4% and acute polyhydramnios of 2%.¹

Polyhydramnios is an independent risk factor for poor pregnancy outcome, had a higher incidence of fetal complications like increased risk of cesarean section,⁷ instrumental delivery,^{7,9} preterm delivery,¹⁰ 1 minute APGAR score < 7,¹⁰ fetal death,^{11,12} fetal distress,¹² birth weight more than 4000 gram¹⁴ and need for neonatal care.¹³ It is shown that there is no positive correlation of severity of polyhydramnios with frequency of cesarean section.^{6,15}

In our health care system there is no proper referral system of the pregnant ladies to the tertiary care hospitals, so the rationale behind this study was to document the modes of delivery in pregnan-

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cies with increasing severity of polyhydramnios, to enable the attending obstetrician to anticipate the expected mode of delivery with the associated degree of polyhydramnios. The objectives of our study were to find out the frequency of severity of polyhydramnios and the frequency of different modes of delivery in pregnancies with polyhydramnios.

MATERIAL AND METHODS

This cross sectional study was done in Department Obstetrics and Gynecology, Khyber Teaching Hospital, Peshawar, from July 2010 to December 2011. Inclusion criterion was patients with pregnancies of more than 26 weeks of gestation with ultrasonographically confirmed polyhydramnios. Patients with twin pregnancies, fibroid uterus, any abdominal or gynecological malignancies were excluded from the study.

Detail history was taken regarding maternal age in years, gestational age in weeks and progression about the present pregnancy. Per abdominal examination was done for fundal height, lie and presenting part of the fetus, auscultation of fetal heart sounds and per vaginal examination were performed for dilatation of cervical os, effacement of cervix, station of the presenting part and whether the membranes were intact or not. These patients were followed till the end of labour and their mode of delivery i-e; normal vaginal delivery, instrumental delivery or cesarean section was recorded.

Mild polyhydramnios was labeled as amniotic fluid index (AFI) of 25-30, moderate as AFI of 31-35 and severe with AFI >35. Maternal age in years and gestational age in weeks were demographic variables. Frequency of severity of polyhydramnios and frequency of modes of delivery were the research variables. The numerical variables of maternal age in years and gestational age in weeks were analyzed by mean \pm SD (range). Categorical variables of severity of polyhydramnios and frequency of modes of delivery were analyzed by frequency (number) and relative frequency (percentages).

SPSS 16 (SPSS Inc. Chicago, Illinois, USA) was used for descriptive analysis.

RESULTS

The total number of ladies patients was 532. Mean age of the pregnant ladies was 30.30 ± 6.28 (20-42) years. The mean age of gestational amenorrhea was 35.6 ± 3.35 (28-41weeks) weeks. The frequency (number) and relative frequency (%) of mild polyhydramnios was 304 (57.5%), of moderate 123 (23.1%) and of severe polyhydramnios 105 (19.7%). In patients with mild polyhydramnios 262 (50.3%) had normal vaginal delivery, 17 (3.1%) instrumental delivery and 25 (4.6%) had cesarean section. In patients with moderate polyhydramnios 81 (15.1%) had normal vaginal delivery, 17 (3.1%) instrumental delivery and 25 (4.6%) had cesarean section. Those patients with severe polyhydramnios 80 (15%) had normal vaginal delivery, 14 (2.9%) had instrumental deliveries and 11 (2.0%) had cesarean section. Overall in 532 case, normal vaginal delivery was done in 423 (79.4%), instrumental delivery in 48 (9.1%) and cesarean section was performed in 61 (11.5%) cases. Normal vaginal delivery was the most common mode of delivery among the entire study population. (Table 1)

DISCUSSION

Polyhydramnios is not frequently associated with pregnancies. Majority of the pregnancies with polyhydramnios end up with normal vaginal delivery but still every tenth patient will be delivered by either instrument assisted delivery or cesarean section.

The frequency of normal vaginal delivery in patients with mild polyhydramnios in our patients was 50.3% but this figure was reported as high as 68.2% by Mathew M² and 79.5% by Chen KC⁷ respectively. The latter two studies were conducted in developed countries and university based hospitals, having better antenatal and perinatal care facilities. The frequencies of cesarean section in mild

Table 1: Frequency of mode of delivery in terms of severity of Polyhydramnios (n=532).

Severity of polyhydramnios	Mode of delivery							
	Normal Vaginal Delivery		Instrumental Delivery		Cesarean Section		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Mild	262	50.3	17	3.1	25	4.6	304	57.5
Moderate	81	15.1	17	3.1	25	4.6	123	23.1
Severe	80	15.0	14	2.9	11	2.0	105	19.7
Total	423	79.4	48	9.1	61	11.5	532	100

polyhydramnios ranges from 2.3%⁹ to 7.5%⁶, depending upon the level of obstetrical care in that particular setup. We documented cesarean section in pregnancies with mild polyhydramnios as 4.6%.

Instrumental deliveries were conducted in 3.1%, each in both categories of mild and moderate polyhydramnios, upto 80% of babies in mild to moderate polyhydramnios who were delivered by instrumental mode of delivery were macrosomic (Baby weight >4kg at the time of delivery). The frequency of instrumental delivery also ranges from 2.5%¹¹ to 11.5%¹⁰ in different setup.

The deliveries to be conducted by cesarean section in pregnancies with severe polyhydramnios in our study was as low as 2% and this figure tallies with national and international findings, i-e; 1.7% by Fawad A¹ and 3.1% by Kale A¹¹. Majority of pregnancies with severe polyhydramnios are associated with some sort of congenital malformations of the fetus and most of these pregnancies end up in still birth. Such pregnancies are either expelled spontaneously or induced rather to do cesarean section.

The predominant mode of delivery in different categories of polyhydramnios is normal vaginal delivery and nearly one tenth of such pregnancies are delivered by either cesarean section or instrument assisted delivery.

CONCLUSION

Normal vaginal delivery is the commonest mode of delivery in any grade of severity of polyhydramnios, followed by cesarean section and instrumental delivery in patients with mild to moderate polyhydramnios.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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