



Original Research Article

Clinical Profile and Maternal Outcome in Patients with Polyhydramnios

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Abstract

Polyhydramnios traditionally defined as an amniotic fluid volume of more than 2000 ml, is confirmed ultrasonographically by single vertical pocket more than 8cm or amniotic fluid index more than 25cm. Polyhydramnios complicates 0.4-1.2% of all pregnancies and is associated with maternal and fetal complications.

Aims: *To study the clinical profile and maternal outcome in pregnancies with hydramnios.*

Methodology: *this was a prospective descriptive study conducted in JIPMER over a 2 year period. 100 cases of polyhydramnios cases confirmed with an ultrasonographic finding of single vertical pocket more than 8cm or amniotic fluid index more than 25 were included in the study.*

Results: *majority of the patients (71%) belonged to the 21-30 year age group and 63% were multigravidas. Majority (82%) were asymptomatic and required no definitive treatment. No definite aetiology was found in 40% patients, 40% were associated with fetal congenital anomalies, 8% had diabetes mellitus, 6% each had multiple pregnancy and Rh negative pregnancy.%*

Introduction

Polyhydramnios is defined as an amniotic fluid volume more than 2000 ml ⁽¹⁾. It is usually a clinical diagnosis confirmed ultrasonographically. Polyhydramnios occur in 0.4 to 1.2% of all pregnancies⁽²⁾. fetal and maternal causes account for 30-40% of cases, whereas 60-70% are idiopathic⁽³⁾. An abnormal increase in amniotic fluid volume has been associated with increased frequency of both maternal and fetal complications.

Aims and objectives

To assess the clinical profile and maternal outcome in patients diagnosed to have polyhydramnios.

Materials and Methods

This was a prospective descriptive study conducted in the department of Obstetrics and Gynecology, JIPMER for a period of 2 years. All pregnant women between 20-42 weeks of gestation attending OPD or seen in casualty detected to have polyhydramnios clinically

were evaluated by Hitachi EUB -315 scanner using linear and sector probe of 3.5 MHz frequency.

Inclusion criteria- Singleton or multiple pregnancy with gestational age 20-42 weeks with clinically diagnosed hydramnios

Exclusion criteria

- 1) Rupture of membranes
- 2) Gestational age <20weeks

With the patient lying supine, using a curvilinear or sector transducer amniotic fluid pockets were measured. Uterus is arbitrarily divided into four quadrants using the maternal sagittal midline vertically and a transverse line approximately half way between pubic symphysis and upper edge of uterine fundus. The deepest obstructed and clear pocket of amniotic fluid is visualised and image frozen. Ultrasound calipers are manipulated to measure the pocket in a strictly vertical direction. The process is repeated in each of the four quadrants and fluid pocket measurements are summed and this gives amniotic fluid index. Maximum vertical pocket of amniotic fluid of 8cm or more or amniotic fluid index more than 25 was taken as polyhydramnios. Each patient included in the study was subjected to relevant investigations like blood group and Rh typing and blood sugar to identify the possible aetiology of hydramnios. A detailed ultra-sonographic evaluation of the fetus for structural anomalies was done. These patients were followed up during pregnancy and labour. Those patients who became symptomatic during pregnancy were treated with Indomethacin 25mg thrice daily up to 34weeks of gestation those patients presenting with acute symptoms were treated with therapeutic amniocentesis and subsequently put on Indomethacin. Serial ultrasound determination s of amniotic fluid volume was done in these patients to determine the adequacy of treatment. The mode and gestational age of delivery were based on obstetric criteria. Patients diagnosed with major fetal congenital malformations not compatible with life such as anencephaly were induced soon after diagnosis. Those patients diagnosed with pregnancy induced hypertension

or diabetes were induced at 37 completed weeks of gestation. All other patients were allowed to go into spontaneous labour. Caesarean section was done only for obstetric indications. The maternal outcome was studied in the patients irrespective of the mode of delivery.

Results

In our descriptive study a total of 100 patients were included. The diagnosis of polyhydramnios was confirmed using ultrasonological criteria, using single vertical pocket and/ or amniotic fluid index. The age of the patients included ranged from 18-38 years, the commonest age group found being 21-30years (71%). Majority (63%) of the patients were multigravidas, 9% were grand mutigravidas. Majority of the patients were diagnosed with polyhydramnios between 36-40 weeks.

Majority (82%) of the patients with hydramnios had no specific complaints. 12% presented with over distension of abdomen and difficulty in breathing. In 95% of the patients hydramnios was mild, 5% had moderate to severe hydramnios. In our study 40% were idiopathic hydramnios, 8% of the cases were related to maternal diabetes, 6% to multiple pregnancy and 6% to Rh negative pregnancy. Congenital anomalies of fetus accounted for 40% of the cases. Majority (53%) of the patients were managed conservatively, 12% of the patients received Indomethacin 25 mg 8th hourly, 5% required indomethacin therapy and amniocentesis. Remaining 30% of patients came in labour and delivered within 24 hours after admission.

Clinical profile of pregnant mothers with hydramnios

variable	No:(percentage) N=100	variable	No:(percentage) N=100
Age		Gravidity	
15-20	14(14%)	Primi	28(28%)
21-25	43(43%)	Multi	63(63%)
26-30	28(28%)	Grand multi	9 (9%)
31-35	10(10%)		
36-40	5(5%)		
Gest age		Presenting complaint	
20-24	3	Asymptomatic	82(82%)
25-28	3	Abdoverdistension	12(12%)
29-32	19	Difficulty in breathing	
33-36	29	Decreased U/O	3(3%)
37-40	40	leakingPV	3(3%)
41-42	6		
Aetiology		Management	
Idiopathic	40 (40%)	Conservative	53(53%)
Diabetes mellitus	8 (8%)	Indomethacin	12(12%)
Multiple pregnancy	6 (6%)	Indomethacin+amniocentesis	5(5%)
Rh-ve	6 (6%)		
Congenital anomalies	40 (40%)		

Associated antenatal complications	
Anemia	27(27%)
Malpresentations	22(22%)
Breech	10(10%)
Face	7(7%)
Transverse	5(5%)
Preterm labour	16(16%)
PIH	15(15%)
IUD	10(10%)
PROM	6(6%)
Placenta previa	3(3%)
Abruption	1(1%)
eclampsia	1(1%)

Maternal outcome in hydramnios

variable	No:(percentage) N=100	variable	No:(percentage) N=100
Type of labour		Mode of delivery	
Spontaneous	44(44%)	Vaginal	49(49%)
Induced	42(42%)	LSCS	34(34%)
PGE2+oxytocin	25(25%)	Instrumental	13(13%)
ARM	8 (8%)	Forceps	9(9%)
ARM +oxytocin	4(4%)	Vacuum	2(2%)
PGE2+ARM	2(2%)	Cephalocentesis+forceps	2(2%)
Foley's +oxytocin	1(1%)	Assisted breech	4(4%)
2 PGE2	1(1%)		
Indications for induction		Indications for LSCS	
Cong anomaies		CPD	14(41.18%)
Past dates	15(35.71%)	Malpresentations	11(32.36%)
IUD	10(23.8)	Placenta previa	3(8.82%)
PIH	10(23.8%)	Cord prolapse	3(8.82%)
Antepartum eclampsia	6(14.28%)	Twins	1(2.94%)
	1(2.38%)	Fetal distress	1(2.94%)
		abruption	1(2.94%)
Intrapartum complications		Postpartum complications	
CPD		PPH	3
Abruption	14(14%)	Retained placenta	1
Cord prolapse	5(5%)	Postnatal abnormal	1
Incoordinate uterine action	3(3%)	LFT,hepatomegaly	1
	3(3%)	Postpartum eclampsia	

Commonest antenatal complications associated with hydramnios were 27% and malpresentations (22%). other associated complications were preterm labour (16%), pregnancy induced hypertension (15%), IUD (10%), PROM(6%), placenta previa (3%), abruption (1%), eclampsia (1%). Among 100 patients, 44% went into labour spontaneously, 42% were induced. for the remaining 14% of patients elective LSCS was done. Most common method used for ripening of cervix was prostaglandin E2 gel and oxytocin induction (25%). Main indication for induction was congenital anomalies of the fetus (35.71%) followed by past dates (23.8%) and IUD (23.8%). Main intrapartum complications were cephalopelvic disproportion (14%) and abruption (5%). 49% of patients delivered vaginally, 34% were delivered by LSCS and 13% had instrumental delivery (11% forceps, 2% vacuum). The most common indication for LSCS was cephalopelvic disproportion (41.18%), malpresentations coming next (32.36%). Three percent of patients had postpartum hemorrhage which was controlled with Inj. methyl ergometrine, oxytocin infusion and no patients needed blood transfusion

Discussion

Polyhydramnios in singleton pregnancies has generally been defined as greater than 2 litres of amniotic fluid within the gestational sac. In our study a total of 100 patients were included. The diagnosis of polyhydramnios was confirmed using ultrasonological criteria, using single vertical pocket and / or amniotic fluid index. The commonest age group affected was 21-30 years (71%). In a study conducted by Mamopoulos et al⁽⁴⁾ the mean age group of patients was 28.9 years and the gestational age at the time of diagnosis was found to be 27.4+/-2.79 weeks. In our study, the gestational age ranged from 20-42 weeks, majority diagnosed between 36 and 40 weeks. This late diagnosis was due to lack of prior antenatal care and patients presenting for the first time at term. Stoll et al⁽⁵⁾ found an association of 5.1% consanguinity of parents in cases of hydramnios. In our study, 11% patients had

consanguineous marriage, majority married to their maternal uncle. In a study conducted by Dildy et al⁽⁶⁾ the gravidity of patients ranged from 1-14 (mean 3.2). This ranged from 1-7, 63% of them were multigravidas.

Arien Many et al⁽⁷⁾ found in their study among 275 patients that the incidence of mild, moderate and severe hydramnios were 72.3%, 20% and 7.7%. In our study we found mild hydramnios in 95% patients and only 5% had moderate to severe hydramnios.

Desmedt et al⁽⁸⁾ found in their 10 year study in 537 patients with polyhydramnios that 5.9% patients had preexisting diabetes and 3% had gestational diabetes. In another study by Rajgire AA et al⁽⁹⁾ about 58.1% cases of polyhydramnios had associated maternal condition of which maximum cases had preeclampsia (16.6%) and anaemia (16.6%) followed by gestational diabetes mellitus (8.3%) followed by Rh isoimmunization (6.6%). Gita Guin et al⁽¹⁰⁾ found in their study that diabetes mellitus was found in 20% of cases, PIH in 17.7%, twin pregnancy in 6.6% and Rh incompatibility in 4.4%. In our study there were associated factors like anemia in 27%, diabetes mellitus in 8%, multiple pregnancy in 6% and Rh negative in 6% of cases. High incidence of anemia in our study may be due to low socioeconomic group.

We found an incidence of 27% anemia, 22% malpresentations, 16% preterm labour, 15% pregnancy induced hypertension, 10% intrauterine deaths, 6% PROM, 3% placenta previa, 1% abruption and 1% antepartum eclampsia in our patients. Rajgire AA et al⁽⁹⁾ found in their study that about 31.4% of cases of polyhydramnios had complications like malpresentation (6.6%), preterm labour (5%), premature rupture of membrane (5%), eclampsia (5%), placenta previa (3.3%), and 3.3% patients developed postpartum haemorrhage. Least common were cord prolapse and placental abruption (1.6%) Gita Guin et al⁽¹⁰⁾ found that the incidence of malpresentation was 13.3%, cord prolapse (11.1%) and PPH (4.4%) In their study, Sudha Chourasia et al⁽¹¹⁾ found that the common complications were

preterm labour (16.3%) followed by PROM (3.7%) abruption placentae (2.9%) and PPH (2.9%)

In our study 53% of patients were managed conservatively. Twelve patients who presented with abdominal over distension and respiratory distress were treated with Indomethacin 25 mg three times daily. Five patients if required amniocentesis in addition to Indomethacin therapy for relief of symptoms. Remaining 30% of patients delivered within one day after admission. Golan et al⁽¹²⁾ proved in his study that in case of idiopathic hydramnios in the asymptomatic patients, a more conservative approach is warranted with more than half of those cases resolving spontaneously

Of the 100 patients 44% patients went into spontaneous labour. In 42% patients labour was induced 35.71% of them for congenital fetal anomalies, 23.8% for past dates, 23.8% for PIH. Gita Guinet al⁽¹⁰⁾ found in their study that 86.6% of the polyhydramnios subjects went into spontaneous labour, 40% prematurely. Of these, 38.5% (15/39) needed augmentation of labour and 82% delivered vaginally. 13.3% of the polyhydramnios subjects had to be induced due to co-morbid factors, of whom 50% delivered vaginally. In our study 49% of the patients had vaginal delivery. 34% had Caesarean section, main indications being CPD (14%) and malpresentation (9%). Rest 13% patients had instrumental delivery. Desmedt et al⁽⁸⁾ found that out of 537 patients with hydramnios, 35% had a normal vaginal delivery, 12% had assisted breech delivery, 12% forceps delivery and 41% were delivered by Caesarean section. The indications for Caesarean section were contracted pelvis, obstructed labour, severe preeclampsia and antepartum hemorrhage. In the study by SudhaChourasia et al⁽¹¹⁾, 15% of patients underwent caesarean section most common indication being fetal distress other indication being cephalopelvic disproportion, malpresentation and cord prolapse.

Conclusion

Polyhydramnios is associated with maternal, fetal and neonatal complications. Clinical suspicion and ultra-sonographic confirmation of hydramnios point towards the need for detailed maternal and fetal evaluation to find out the aetiology and manage them to reduce the complications. So identification and evaluation of increased amniotic fluid volume is considered an important component of antenatal assessment.

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