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FETOMATERNAL OUTCOME IN PATIENT WITH IDIOPATHIC POLYHYDRAMNIOS IN Al BASRA HOSPITAL FOR MATERNITY AND CHILDREN

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ABSTRACT

The aim of this study is to study maternal and fetal outcome in patients with idiopathic polyhydramnios in Al-Basra Hospital for Maternity and Children. Maximum cases of idiopathic polyhydramnios were mild and were diagnosed after 28 weeks of gestation indicating that idiopathic polyhydramnios is usually mild and develops gradually later in the gestation. Some cases of idiopathic polyhydramnios were associated with obstetrical complications, But our study had a limitation that follow up postnatal was just limited to the fate of delivery and first 24hrs after delivery.

Keywords: Fetomaternal Outcome, Idiopathic Polyhydramnios

INTRODUCTION

Polyhydramnios is defined as a pathological increase of amniotic fluid volume in pregnancy and is associated with increased perinatal morbidity and mortality, it's the term used to describe an excess accumulation of amniotic fluid. This clinical condition is associated with a high risk of poor pregnancy outcomes[1]. [1] Amniotic fluid plays a vital role in the normal growth of the fetus that promotes musculo-skeletal development and allows for easier fetal movement and provides an efficient barrier against ascending infections. It helps to maintain the fetal body temperature and plays a part in the homeostasis of fluid. It prevents compression of the umbilical cord and thus protects the fetus from vascular and nutritional compromise[2].

Fetal urination, lung fluid production and swallowing, and intramembranous absorption (into the fetal vascular compartment) make significant contributions to fluid movement in late gestation: other factors (eg, saliva production) make minimal contributions[3]. Today, though, ultrasonography studies may reveal an abnormal increase in amniotic fluid volume earlier in pregnancy, resulting in more cases being reported. Intuitively, it seems that earlier diagnosis via ultrasonography could improve outcome, but that has not yet been proven conclusively[4]. Polyhydramnios is usually an idiopathic condition (60%), but may occur due to maternal diabetes, renal and cardiac diseases, fetal structural anomalies (esophageal atresia, duodenal atresia, chromosomal abnormalities, neural tube defects), isolimmunization, congenital infections and multiple pregnancies (twin to twin transfusion syndrome)[5].

In a study by Kollmann et al of 860 singleton pregnancies complicated by polyhydramnios, 68.8% of the polyhydramnios cases were idiopathic, while maternal diabetes was found in 19.8% of cases: congenital anomalies, in 8.5%: and a positive TORCH (toxoplasmosis, other [such as syphilis, varicella-zoster, parvovirus B19], rubella, cytomegalovirus, herpes infection) serology, in 2.9%[15]. Polyhydramnios has been associated with fetal anomalies in most organ systems. The most common

structural anomalies associated with polyhydramnios are those that interfere with fetal swallowing and/or absorption of fluid ,decreased swallowing may be due to a primary gastrointestinal obstruction (eg, duodenal, esophageal, or intestinal atresia), neuromuscular disorders (eg, anencephaly), or to secondary obstruction of the gastrointestinal tract (eg, massive unilateral dysplastic kidneys)[16].

Polyhydramnios is independently associated with increased perinatal morbidity and mortality[20]. Regardless of the etiology, polyhydramnios are associated with increased maternal and fetal complications[9].[9] Higher rates of congenital malformations, and neurological disorders,can be accounted for polyhydramnios outcomes[21]. Sickler et al. evaluated 39 fetuses with polyhydramnios who were small for gestational age and observed that major congenital anomalies were present postnatally in 92% (36 of 39) of fetuses and chromosome abnormalities were present in 38% (15 cases)[22]. Treatment consists of reducing the volume of amniotic fluid to improve maternal well-being and prolong the pregnancy. The following methods are used to reduce amniotic fluid volumes, amnioreduction (therapeutic amniocentesis), and pharmacological treatment

Amnioreduction, though not yet evaluated in randomized or controlled studies, it offers a clear clinical benefit if done after careful diagnostic evaluation. However, there is no consensus regarding the volume of aspirated amniotic fluid, the speed of aspiration and the use of tocolytics or antibiotics. The intervention is usually concluded when ultrasound examination shows an AFI of15 to 20 cm or if intra-amniotic pressure drops to < 20 mmHg[12]. In some cases, the intervention had to be terminated due to maternal discomfort or premature placental abruption. Tocolytics are routinely used as prophylaxis to prevent onset of preterm labor[13]. Complications occur in 1-3% of cases and can include premature labor, placental abruption, premature rupture of membranes. hyperproteinemia and amniotic infection syndrome ,After the procedure, regular monitoring of amniotic fluid volumes is recommended, with monitoring done every | to 3 weeks[14].

Methodology :

A prospective study conducted on 55 pregnant women between 20 and 42 weeks of gestation with idiopathic polyhydramnios at Al-Basra Maternity and Children hospital, during the period of June 2015-Sep.2016. Detailed history was taken, general and obstetrical examinations were done and ultrasound was done to determine the amniotic fluid index (AFI). Ultrasound was done to detect the presence of any congenital anomalies, hydrops, multiple gestation, and placental anomalies; if any of these were found in any of the women, such women were excluded from the study. Random blood sugar was done to exclude women with gestational diabetes mellitus from the study. Women were sent for laboratory checking of TORCH infection and those whom found to be positive were also excluded from the study.

Conclusions :

Idiopathic polyhydramnios be considered a high risk pregnancy and managed in tertiary care settings with a detailed antepartum fetal well being surveillance, intensive intrapartum fetal monitoring and postpartum attention by an expert neonatologist.

MATERIAL AND METHODS :

The present study is a prospective study conducted on 55 pregnant women between 20 and 42 weeks of gestation with idiopathic polyhydramnios , At Al-Basra Maternity and Children hospital : during the period , June 2015-Sep.2016.Detailed history was taken , general and obstetrical examinations were done and ultrasound was done to determine the amniotic fluid index(AFI). Polyhydramnios was defined as AFI greater or equal to 24cm using Four-quadrant technique .Polyhydramnios was classified as mild, moderate and severe according to the AFI of 24-30 cm, 30.1-35em, and > 35cm respectively. Ultrasound was done to detect the presence of any congenital anomalies, hydrops, multiple gestation, and placental anomalies: if any of these were found in any of the women, such women were excluded from the study.

Random blood sugar was done to exclude women with gestational diabetes mellitus from the study. Women were sent for laboratory checking of TORCH infection and those whom found to be positive were also excluded from the study. Thus 55 pregnant women with idiopathic polyhydramnios in the second and third trimester irrespective to age and parity were included in the study as cases. Associated obstetrical complication like gestational hypertension, preeclampsia, and preterm labor, premature rupture of membrane (PROM), mal- presentations, abruption placentae, and postpartum hemorrhage were recorded in the study.

All patients had not received any specific treatment or interference during their pregnancy regarding the management of complaints related to polyhydramnios. In these pregnant mothers induction of labour/cesarean section were done (depending on obstetrical indication). Follow up of theses mothers were done by contacting them using their phone numbers, and arranging several appointments and visits to the Hospital for the follow up of their condition.

Those that were discovered during the second trimester at least two-three visits for those that were discovered during the third trimester, the mode of delivery, maturity (preterm of or full term) and neonatal outcome were recorded also by following up the mothers after their delivery, until a completed 24hrs postpartum.

RESULTS :

In the studied cases 39(78.0%) had gradual as 11(22.0%) had acute onset of polyhydramnios, out of 50 pregnant women in these studied cases 41(82.0%) presented with mild polyhydramnios, 9(18.0%) were with onset of polyhydramnios, where moderate polyhydramnios, and no severe idiopathic polyhydramnios found (Table 1). Out of 50 pregnant women in the studied cases 38(76.0%) had vaginal Delivery, and 12(24.0%) had cesarean section. In the studied cases 14(28.0%) had preterm deliveries, and 36(72.0%) had term deliveries (Table 2).

In the studied cases 32(64.0%) women had obstetrical complications, among which 14(28.0%) had preterm labours , cephalopelvic disproportion waspresent into 2(4.0%) women PROM was present in 2 (4.0%); 7 (14.0%) pregnant women had malpresentation; abruption placenta was seen in 1(2.0%)

women , and postpartum hemorrhage was seen in 2(4.0%) women. In the studied cases 2 women (4.0%) had pre eclampsia, and 2 women (4.0%) had gestational hypertension (Table 3)

Table 1: Distribution of idiopathic polyhydramnios according to severity

Severity of Polyhydramnios	Number	Percentage
Mild 24-30cm	41	82.0 %
Moderate 30-35cm	9	18.0%
Severe >35cm	----------	----------
Total	50	

Table 2: Distribution of women with idiopathic polyhydramnios according to different parameters of delivery

Parameters of Delivery	Number	Percentage
Vaginal	38	76%
Cesarean Section	12	24%
Preterm	14	28%
Term	36	72%
Total	50	

In the studied cases 18(36.0%) of neonates were admitted in neonatal intensive care unit (NICU), 10 neonates were preterm (20.0%) and 8 neonates (16.0%) were term. 43 neonates (86.0%) survived, and 7 (14.0%) died, of them 6(12.0%) were preterm and (2.0%) was term (Table 4).

Table 3: Distribution of women with idiopathic polyhydramnios in relation to maternal complication

Maternal Complication	Number	Percentage
Cephalopelvic Disproportion	2	4.0%
Mild preeclampsia	4	8.0%
Premature rupture of membrane (PROM)	2	4.0%
Preterm Labour	14	28.0%
Malpresentation	7	14.0%
Abruptio Placenta	1	2.0%

Postpartum Hemorrhage	2	4.0%
Total	32	62.0%

Table 4: Fetal outcomes of women with idiopathic polyhydramnios

Fetal Outcome	**Number**	**Percentage**
Live	43	86.0%
Dead	7	14.0%
	6 preterm	12.0%
	1 term	2.0%
Neonatal Intensive Care Unit (NICU)	18	36.0%
	10 preterm	20.0%
	8 term	16.0%

DISCUSSION :

In the present prospective study, 50 women with idiopathic polyhydramnios were studied. Maximum cases of idiopathic polyhydramnios were mild (82.0%) and were diagnosed after 28 weeks of gestation indicating that idiopathic polyhydramnios is usually mild and develops gradually later in the gestation. Some cases of idiopathic polyhydramnios were associated with obstetrical complications as cephalopelvic disproportion(CPD) , mild pre-eclampsia and gestational hypertension , premature rupture of membrane(PROM), preterm labour , malpresentation abruption placenta and postpartum hemorrhage , preterm labour and PROM can be explained by the early initiation of uterine contractility by over distention of uterus in polyhydramnios , and this was in agreement with other studies done by Golan et al.[15] Cesarean sections rates were 12(24.0%) in pregnant women with idiopathic polyhydramnios , and the main indications were fetal distress , CPD , unstable lie , malpresentation , and previous cesarean section , which proved by a study done by Chen et al.[16]

The perinatal outcomes in terms of NICU admission 18(36.0%) and neonatal deaths 7(14.0%) in the study were relatively high, mainly due to prematurity, and birth asphyxia, which is in agreement with a study done by Chen et al [16], but it was found in a study done by Phelan JP et al that there were relatively moderate perinatal outcomes in terms of NICU[7]. Panting-kemp et al in 1999 reported that idiopathic polyhydramnios was not significantly associated with greater risk of preterm delivery and adverse neonatal outcome. However, they found a significant increase in macrosomia and higher number of incidence of cesarean sections[17], which are in concomitant with our present study.

Malas et al studied perinatal outcomes in idiopathic polyhydramnios in 69 women in 2005, this study showed that apart from increased incidences of macrosomia , malpresentation and cesarean section , idiopathic polyhydramnios does not seem to have an adverse perinatal outcomes[18]. In a study by Kuang-Chaochen et al in 2005, idiopathic polyhydramnios carried a higher incidence of adverse perinatal outcomes, such as fetal distress in labour and NICU transfer and fetal death[16].

In a study by Abele et al, in 2012 it was concluded that in about 40% of pregnancy, polyhydramnios remains unexplained during the course of pregnancy and in 10% of cases, an anomaly will only be found after birth[19], which is less than that found in our study only 2(3.6%) cases were diagnosed with continental anomalies postnatally which were missed on antenatal scans. In another study it was concluded that in neonates with idiopathic polyhydramnios abnormalities were detected during the first year of life in 28.4% [20]. But in our study had a limitation that follows up postnatal was just limited to the fate of delivery and first 24hrs after delivery.

CONCLUSION :

Although maxima cases of have mild polyhydramnios, and were detected gestation. There is a high incidence of obstetrical complications and poor neonatal outcomes. Thus, idiopathic polyhydramnios is an independent risk factor for perinatal morbidity and mortality. Also, congenital anomalies missed by ultrasound can present as idiopathic polyhydramnios which are then detected postnatally . So, based on the present study, it can be advised that idiopathic polyhydramnios be considered a high risk pregnancy and managed in tertiary care settings with a detailed antepartum fetal well being surveillance, intensive intrapartum fetal monitoring and postpartum attention by an expert neonatologist.

Ethical approval:

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Conflict of interest:

Nill

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