



Acute Polyhydromnios: A Rare Entity

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Acute Polyhydramnios is defined as accumulation of amniotic fluid rapidly complicating approximately 0.2 TO 1.6% of all pregnancies, whereas gestational diabetes (GD) is glucose intolerance in pregnant women, a major health issue in pregnant women. The prevalence rate of glucose intolerance in pregnant women is between 4.6%–14% in well developed areas and 1.7%–13.2% in rural areas. Pregnancies conceived by in vitro fertilisation (IVF) have been associated with higher risk of gestational diabetes mellitus (11.7%), gestational hypertension (9.3%), preeclampsia (4.0%), ICP (11.8%), placenta previa (7.1%), placental abruption (1.6%), PROM (9.9%), placental adherence (7.7%), postpartum haemorrhage (7.3%), and polyhydramnios (2.2%), as compared to spontaneously conceived pregnancies.

Case Description: A 35 years primigravida, 33 weeks gestational age with IVF conception with preeclampsia with breech came with pain in abdomen since 2-3 days. On clinical examination, polyhydramnios was diagnosed. On admission she presented with deranged sugar level which was abnormal and sudden rise in Glycosylated hemoglobin seen. Patient was managed conservatively by termination of pregnancy and successful outcome of pregnancy was obtained despite of liquor more than adequate and deranged sugar levels.

Objectives: We examined the routine antenatal profile, radiological changes as well as doppler changes in IVF conceived pregnancies and further management on the basis of clinical, haematological and radiological investigations will be planned accordingly.

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Conclusion: Acute polyhydramnios and Gestational diabetes is common in patients conceived through in vitro fertilisation and is associated with poor foetal outcome. Regular antenatal investigations and radiological investigations done to keep her pregnancy in check and reduce the long term effects by modifying treatment modality and by following healthy lifestyles in such patients.

Keywords: Acute polyhydramnios; gestational diabetes mellitus; caesarean section.

1. INTRODUCTION

Polyhydramnios is the medical term used when the amniotic fluid collects rapidly [1]. This medical condition is linked to a high risk of poor foeto-maternal outcome. Polyhydramnios affects between 0.2 and 1.6 percent of all pregnancies.

When the deepest vertical pocket is more than 8 cm deep or the amniotic fluid index is higher than the 95th percentile for the gestational period, it is called polyhydramnios [2]. A deep pocket of 8 cm or more is the criterion for polyhydramnios, which occurs in 1-3 percent of all pregnancies.

The majority cases of mild polyhydramnios are idiopathic, but the two most common causes of polyhydramnios are maternal diabetes mellitus and foetal anomalies. Normal range of AFI is 5-24 cm. when the AFI is more than 24 cm, it is known as polyhydramnios.

Polyhydramnios is often caused by impaired foetal swallowing or excessive foetal urine production as a result of a high-output cardiac condition, renal abnormality, or osmotic foetal diuresis.

Gestational diabetes mellitus (GDM) is defined as glucose intolerance in pregnant women [3] affecting about 7 % of pregnancies, resulting in over 200,000 cases each year. The prevalence of gestational diabetes mellitus ranges from 1 to 14% of all pregnancies.

Pregnancy, perinatal and neonatal complications are analysed and investigated, we found that women conceived through in vitro fertilisation were associated with a significantly higher incidence of gestational diabetes mellitus (11.7%), gestational hypertension (9.3%), preeclampsia (4.0%), intrahepatic cholestasis, placenta previa, placental abruption, preterm premature rupture of membranes (9.9%), placental adherence, postpartum haemorrhage (7.3%), polyhydramnios (2.2%), preterm labour, and low birth weight [4].

2. CASE PRESENTATION

A 35 years old primigravida with 33 weeks gestational age with preeclampsia with breech presentation with in vitro fertilization conception came to us with preterm labor pains with chief complaints of pain in abdomen and fever on and off for one day.



Fig. 1. Pregnancy, perinatal and neonatal complications

Medical, family, and psycho-social history:

There is no evidence of any for-social or surgical condition in the past, family history is also not significant.

Relevant past interventions with outcomes:

Patient was hypertensive since 20days on capsule depin 5 mg OD. Patient was apparently normal 15 days earlier with normal sugar level.

No history of tuberculosis, epilepsy, asthma.

No history of any blood transfusion or orofer injection.

Clinical Findings: On general examination, patient general condition was roofer were stable, with no pallor, pedal oedema present.

On per abdominal examination uterus was 36-38 weeks size, breech, mild contractions were present. Patient was in preterm labor pains.

Per vaginum examination showed os 2 cm dilated with effacement of 20%, station was high up, membrane present.

Timeline: Patient was apparently normal 15 days earlier with normal sugar level. Sugar levels were deranged on admission showing FBS244 while hbA1c value raised to 11.6. Insulin 15 units stat was given on admission.

Her previous USG done one month ago showed single live intrauterine fetus with average gestational age of 29.5 weeks GA with effective fetal weight of 1438gms with breech lie with placenta posteriorly grade II, liquor index adequate 14.5.

Patient was managed by termination of pregnancy, caesarean section done in view of fetal distress to which patient presented with liquor more than adequate intraoperatively.

Successful outcome of pregnancy was obtained, female baby 2.7 kg, cried immediately after birth. Baby was shifted to NICU due to decreased arterial oxygen saturation and cyanosis thereafter. Baby was mother side on Day 10 after caesarean section. Insulin 4 units was given intraoperatively to the patient. Post operatively patient was medically managed and RBS charting done, with normal findings of sugar level

on day 2 of caesarean section. Patient was on Injection insulin 8-8-8 units and tablet amlodipine BD post operatively.

3. DIAGNOSTIC ASSESSMENT

Her routine antenatal profile as well as PIH profile was sent which showed:

Slightly raised alkaline phosphatase i.e. 167. Rest liver and kidney function test were normal. Serum uric acid was slightly raised i.e., 7.3 while serum LDH was also slightly raised i.e. 289. Coagulation profile was normal, both APTT and PITNR values were in normal range. Urine albumin was +1, while urine sugar +2.

3.1 Diagnosis

Primigravida with 33 weeks gestational age with acute polyhydramnios with in vitro fertilisation conception for further management.

3.2 Prognosis

Emergency Caesarean section was done at 33 weeks gestational age

Female baby, 2.7 kg cried immediately after birth.

Baby shifted to NICU Ivo cyanosis, injectables given and monitoring done. Baby shifted to mother side on Day 10 of caesarean section.



Fig. 2. USG images

3.3 Therapeutic Intervention

Inj. insulin 15 units stat was given on admission. Insulin 4 units was given intraoperatively to the patient.

Post operatively patient was medically managed and RBS charting done, with normal findings of sugar level on day 2 of caesarean section.

Patient was on Injection insulin 8-8-8 units and tablet amlodipine BD post operatively.

3.4 Follow-up and Outcomes

Patient was managed conservatively and caesarean section was done, female baby ,2.7 kg delivered, baby was in NICU. Injectables were given, baby was mother side on Day 10 of caesarean section.

4. DISCUSSION

Pregnancies complicated by polyhydramnios are high risk and need to be thoroughly investigated. In a study a total 3896 women were delivered in a period of 2 years and 64 women were diagnosed as having pregnancy with polyhydramnios. The incidence of polyhydramnios was 1.64% which is comparable to study by Anisa Fawad [5] with incidence of 2%. Rd. Saadia Tariq [6] which had incidence of 2.19%.

The severity of polyhydramnios in our study came out as mild 55.88%, moderate 25% and severe 15.62%. This is comparable to other studies like Dr. Sadia Tariq [6] mild 54.8%, moderate 31.7% and severe 13.5% [6]. Study by Anisa Fawad [5] had mild 57.1%, moderate 25.7%, and severe 17.14%. In a study by Humaira Aram [7] mild cases were 60%, moderate 36.6% and severe 3.3%.

The mode of delivery in cases in study by Shamim Akhtar [8] 60% delivered vaginally and 40% underwent caesarean section. In a study by Kaung Chao Chen Chang Gung Hospital Taipei [9] in patients with polyhydramnios 44.8% delivered vaginally and 55.2% had caesarean section. In our study 64.06% delivered vaginally and 35.94% had caesarean delivery.

In India, diabetes mellitus is on the rise, and GDM is no exception. Even when using different techniques, many factors affect capillary blood glucose measurements. According to various reports, the prevalence of gestational diabetes mellitus ranges from 3.8 percent in Kashmir, 6.6

percent in Rajasthan, 6.94 percent in Jammu, 7.1 percent in Haryana, 9.5 percent in Western India, 18.9 percent in Tamil Nadu, to 35 percent in Punjab and 41 percent in Lucknow.

GDM was diagnosed using a number of criteria, including the ADA, IADPSG, DIPSI, and others. The prevalence of GDM was found to be 20.4 percent in capillary blood testing with a glucometer and 11.5 percent in venous blood testing with a glucose oxidase test in the current report.

As compared to other studies, which found that GDM increased with age, more than two-thirds (70.3 percent) of young pregnant women under 25 years old reported it. A number of related studies to gestational diabetes were reported [10-12].

Various types of ART have been associated with pregnancy and perinatal conditions. Gestational diabetes mellitus (11.7%), gestational hypertension (9.3%), preeclampsia (4.0%), ICP (11.8%), placenta previa (7.1%), placental abruption (1.6%), PPROM (9.9%), placental adherence (7.7%), postpartum haemorrhage (7.3%), and polyhydramnios (2.2%) were all more frequent in IVF patients compared to spontaneous conceptions.

We are presenting a case in which despite of the fact that pregnancies conceived following Assisted reproductive technology are at increased risks of antenatal complications, perinatal complications and poor neonatal outcomes, women conceived through invitro fertilisation with acute polyhydramnios and with gestational diabetes mellitus was managed conservatively by termination of pregnancy, caesarean section was done and a healthy baby was delivered. All the complications managed well postoperatively.

5. CONCLUSION

Generally, the acute complications of polyhydramnios and gestational diabetes mellitus are associated with adverse perinatal outcomes. Pregnancies complicated by polyhydramnios are at an elevated risk for caesarean section in this situation, even after controlling for potential confounders such as diabetes. , patient was managed conservatively by termination of pregnancy and medical management was done post operatively and successful outcome was obtained. Post operatively patient was normoglycemic and baby was mother side on Day 10 of caesarean section.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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