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CASE REPORT

Successful Outcome following Antepartum Amnioinfusion in Pregnancy Complicated with Severe Oligohydramnios with APLA Syndrome

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ABSTRACT

Objective: This case was reported to highlight an alternative form of management for patients, including amnioinfusion as one of the tools in an uncommon setting.

Methods: Transabdominal amnioinfusion was done in the patient at 24 weeks for severe oligohydramnios without PPROM. At 26 weeks she was found to be APLAS. Patient was also started on enoxaparin and low dose aspirin.

Results: Pregnancy continued till 36 weeks with delivery of healthy fetus.

Conclusion: Our excellent outcome for the patient having marked oligohydramnios with amnioinfusion along with LMWH clearly underlines the place for such procedures in selected cases.

Keywords: Intrauterine growth restriction, APLA syndrome, Oligohydramnios, Amnioinfusion.

INTRODUCTION

Severe oligohydramnios generally leads to a poor perinatal outcome, especially if the condition is severe or noted in the second trimester.[1] In mid pregnancy, lack of amniotic fluid may be associated with compression deformities and pulmonary hypoplasia.[2] In the later part of pregnancy, oligohydramnios is associated with increased incidence of impaired fetal growth, fetal anomaly and perinatal mortality.

During labor, oligohydramnios is associated with non-reassuring fetal heart-rate, admission to the neonatal intensive care nursery, meconium aspiration syndrome and neonatal death.[3] The efficacy of treatment for oligohydramnios depends on the cause of the oligohydramnios and the gestational age at which it is diagnosed.

Various treatment modalities have been evaluated. Conservative expectant management is one of the commonly practiced approaches to this problem. Restoring the amniotic fluid by amnioinfusion, which improves perinatal morbidity and mortality involves the infusion of saline solution into the amniotic cavity transabdominally, the objective being to increase the amniotic fluid volume. Antepartum amnioinfusion in clinical practice has been limited to very few, often unrandomized trials. Because of the poor outcome of second trimester oligohydramnios, termination of pregnancy is usually offered.[4]

This case was reported to highlight an alternative form of management for these patients, including amnioinfusion as one of the tools. The clinical setting is one of the less common ones for an amnioinfusion.

CASE REPORT

We report a very interesting clinical entity managed successfully with excellent perinatal outcome. A 26-year-old G 2 P 0+1+1+0 patient with previous history of one preterm intrauterine fetal demise presented to our antenatal clinic of All India Institute of Medical Sciences, New Delhi, at 22 weeks' gestation. There was no history of previous high BP record or thrombotic event in self or family. She also had history of spontaneous abortion at 3 months gestation and no documents of the same were available. The next pregnancy ended in a preterm intrauterine death at 30 weeks. No cause could be ascertained from the history. In view of her past obstetric history testing for thrombophilia was initiated keeping in mind the limitations of such testing in pregnancy. The lupus anticoagulant and anti-cardiolipin assay were negative and the Proglobal C assay was ordered which came normal.

At 24 weeks, she was detected to have severe oligohydramnios. There was no history of PPROM. Amniotic fluid index was 1.5. In view of early onset oligohydramnios, a strong possibility of congenital malformation of genitor urinary

tract and karyotypic abnormalities was thought, and decision for amnioinfusion was taken to create an acoustic window and screen for anomalies, and to do cordocentesis for fetal karyotype to prognosticate her regarding the continuation of pregnancy was planned. Amnioinfusion was done with warmed normal saline unevenfully to attain an AFI of 9.8. Cordocentesis was successfully done. To our surprise the karyotype of the fetus came normal and there were no major congenital anomalies in the fetus detected. Thus patient was counselled to continue with the pregnancy. At 26 weeks patient came with high anti-B2 glycoprotein report.

With the previous bad obstetric history and oligohydramnios in present pregnancy decision was taken for a therapeutic trial with low dose aspirin 75 mg/day (LDA) and low molecular weight heparin (LMWH) enoxaparin 60 mg/day. The patient was admitted to high risk care ward and she further developed intrauterine growth restriction (lag of 3 weeks) which was picked up by the ultrasonography. Her preinfusion umbilical artery S/D ratio was 5.6. This came down to 2.8 postinfusion. Biweekly manning score, AFI and Doppler was done and from 32 weeks biweekly NST was added to the fetal testing with reassuring results. BP records were within normal limits. Gradually liquor volume improved markedly with AFI ranging from 9 to 11.2. S/D ratio remained below 3.0. Interval growth was good. At 34 weeks, LMWH and LDA were stopped and fetal testing continued. At 36 weeks she complained of decreased fetal movements. NST was equivocal and manning score was 4/8 with AFI 8.5.

In view of her bad obstetric history and IUGR in this pregnancy, emergency cesarean section was done, a healthy female baby weighing 2.2 kg with Apgar score 9 at both 1 and 5. Postnatally was delivered, we advised her Warfarin 4 mg/day for 10 days postpartum. She was discharged uneventfully after 5 days from hospital.

DISCUSSION

Clinical applications of antepartum amnioinfusion, mostly in oligohydramnios cases, are still controversial and can be divided into the two major groups: Diagnostic and therapeutic procedures. Diagnostic procedures are aimed at improving acoustic window for ultrasound imaging of the fetus with optimum viewing increasing from 50 to 76% following amnioinfusion.[5] Any unidentified premature rupture of membranes (PROM) can be detected by adding small amounts of a dye, such as indigo carmine to the infused amniotic fluid.[6] Therapeutic procedures involve a wider range of indications in oligohydramnios cases. In pregnancies complicated by oligohydramnios at 26 weeks, the rate of pulmonary hypoplasia is down to 46% in women receiving amnioinfusion, compared with 86% in nonamnioinfused women.[7]

Cerebral hemorrhage of more than second-degree severity and/or periventricular leukomalacia appear to be absent in cases of oligohydramnios treated by amnioinfusion between 24 and 32 weeks, but are present in 26% of untreated cases.[8] Several authors also report a longer latency period between PROM and term in women receiving amnioinfusion compared with nonamnioinfused women with average latency period varying between a minimum of 15 days up to a maximum of 89 days in those cases in which amnioinfusion allows the amniotic fluid level to be stabilized for over 48 hours *vs* 7 to 22 days in nonamnioinfused cases.[9] Overall, the multiple benefits induced by amnioinfusion translate into a lower perinatal mortality rate in amnioinfused women with PROM compared with nonamnioinfused women.[1]

Based on such evidence, the procedure of amnioinfusion appears promising; the effect of amnioinfusion in increasing intrauterine volume in mid trimester oligohydramnios is clear, however, it is not yet clear if it is harmless to pregnant women, because no systematic studies have been conducted. In patients with chromosomal anomalies or major structural malformations, termination of pregnancy may be offered but in other situations the diminished amniotic fluid volume is an important variable for determining the perinatal outcome. The procedure is technically difficult, especially if there is anhydramnios with a risk of fetal injury. The critics of this intervention claim that in oligohydramnios there is shift in fetal amniotic fluid homeostasis towards a decline in liquor, so any exogenous fluid is unlikely to remain *in utero* for any significant time to be of any therapeutic value.[10] However, our excellent outcome for the patient having marked oligohydramnios with amnioinfusion along with LMWH clearly underlines the place for such procedures, if proper case selection and adjunctive therapy is added to the clinical decision-making tree. Our search for any medical literature in indexed journals failed to yield any previous report of thrombophilia with favorable outcome following amnioinfusion.

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