

Case Report

Post IVF pregnancy: Hope against Hope

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Abstract: Forty six year old pregnant woman with bad obstetric history, presented with Post IVF twin gestation with cervical encirclage and preterm premature rupture of membranes. After conservative management for few days, emergency caesarean section was done in fetal interest .The pregnancy outcome was satisfactory in spite of multiple complications during antenatal and neonatal period .Good quality neonatal care, team efforts patient compliance helped in achieving optimum outcome.

Keywords: in vitro fertilization, Pregnancy, Antenatal

INTRODUCTION

In vitro fertilization also known as IVF is a method of fertilizing egg outside the body with a sperm. This was discovered by Robert G. Edward who won a Nobel Prize in Physiology in 2010 [1]. The first successful birth of a "test tube baby", Louise Brown occurred in 1978. Artificial reproductive technique (ART) is practiced all over the world. Around 3,50,000 ART cycles per year in 28 different countries have been reported with live birth rate of 20% across the continent. Twin gestation occur in approximately 20% of ART pregnancies. Over a million babies born since inception of IVF, IVF -GIFT, ZIFT, ICSI. Post IVF pregnancy is a high risk pregnancy and is at increased risk of complications like abortions, ectopic pregnancy, fetal congenital malformations and stillbirths. Thus it needs close supervision throughout pregnancy [2]. A case is reported in which successful outcome was achieved in spite of multiple complications during antenatal and neonatal period.

CASE REPORT

A forty six years woman ,third gravida with previous history of two ectopic pregnancies was referred to Pravara Rural Hospital with six and half months amenorrhoea and complaints of intermittent pervaginal discharge and backache since 4-5 days .She had received antibiotics , tocolytics , glucocorticoids for the treatment of preterm premature rupture of membranes at the private hospital . By menstrual dates,

she had completed 28 weeks and by ultrasonography the gestational age was 28 weeks and 6 days. She was a registered antenatal case in private hospital. She had conceived after IVF treatment and was diagnosed to have twin gestation. Second trimester USG showed absence of anomalies and normal fetal growth pattern in both fetuses. She had married life of 26 years.

Her past medical, surgical and obstetric history was as follows: History of tubercular meningitis in 1986 for which she received anti tubercular treatment. She had undergone D&C and HSG in year 1989 that had revealed bilateral tubal block. She had left sided ruptured tubal ectopic pregnancy in year 1992, for which she had laparotomy and left salpingectomy. She had tuboplasty on right fallopian tube in year 1994. Diagnostic hystero- laparoscopy in year 1995 revealed right sided tubal block. She had undergone tuboplasty in 1999 on right fallopian tube in private hospital. She took homeopathic Medication. She had right sided ruptured tubal pregnancy in year 2002 for which she had undergone laparotomy and right salpingectomy. Operative hysteroscopy for Asherman's Syndrome was done in year 2010. She had failed attempt of in vitro fertilization (IVF) in year 2012. She conceived after second attempt of IVF in year 2013 that resulted in twin gestation.

On obstetric examination, uterus was 36 weeks in size, over distended with multiple fetal parts felt in

the uterus. Both babies were in cephalic presentation with normal fetal heart rate. Per Speculum examination showed evidence of amniotic fluid leak. Cervical stitch was seen encircling around cervix. On per vaginal examination, cervical Os was admitting tip of finger. The cervix was uneffaced and the presenting part was high up. Provisional diagnosis in the case was an "Elderly Gravida with 29 weeks of twin gestation (post IVF) with premature rupture of membranes with cervical encirclage with threatened preterm labour with history of 3 laparotomies in the past".

In spite of continuous intravenous tocolysis, patient developed established uterine contractions. Decision of removal of cervical stitch was taken. In view of the precious pregnancy (age 46 years, 26 years married life, post IVF pregnancy), premature twin gestation (29.1week), prolonged premature rupture of

membranes (10 days), established preterm labor, decision of Emergency Caesarean Section taken after joint consultation with Neonatologist and Anesthesiologist. Fetal prognosis was explained to the patient and the relatives. Preparedness for intensive neonatal care including surfactant therapy was done. Pre-anesthetic evaluation- ASA 1. Caesarean section was done under spinal anaesthesia, which was uneventful. Both Babies were admitted in NICU for extreme prematurity and low birth weight. Babies were kept on i.v. fluids for 3 days. Naso-gastric tube feeding (expressed breast milk) started on 4th day till 30th day. Breast feeding started on 31st day. Mother along with both babies was discharged on 43rd day with 1st Twin weighing 1390 grams and 2nd Twin weighing 1440 grams. Both babies had retinopathy of prematurity, which was treated at ophthalmic tertiary care center in first year of life.



Fig. 1 and 2: Showing absent of both tubes at LSCS due to previous salpingectomy for ruptured tubal ectopic



Fig. 3 & 4: Showing both babies at the time of discharge with elderly parents

DISCUSSION

IVF was initially used to overcome female infertility, where in the problem was primarily due to the tubal factors which made fertilization in vivo difficult. Subsequently the indications were extended to include the male factors in infertility. Now with advances in the artificial reproductive techniques, procedure such as intracytoplasmic sperm injection (ICSI) is commonly used, where in a sperm cell is injected directly into the egg cell. This is used when sperm have difficulty penetrating the egg, and in these

cases the partner's or a donor's sperm may be used. ICSI is also used when sperm numbers are very low. When indicated, the use of ICSI has been found to increase the success rates of IVF [6].

Artificial reproductive technique has revolutionized the treatment for the infertile couples. Although expensive, many couples opt for IVF techniques for fulfilling their dreams. With improved results of IVF techniques, more and more pregnancies are reported as Post IVF pregnancies. There are many

issues related to such pregnancies. The pregnant women are usually in their advanced age as seen in this case. The advanced age carries with it the problems of hypertension and diabetes. These pregnancies are many times multi-fetal with associated complications such as premature births, low birth weight babies, malpresentations etc [3]. There is increased incidence of first trimester complications like abortions, ectopic pregnancies, fetal congenital malformations [4] The incidence of stillbirths is high in these pregnancies [5]. The women are extremely anxious throughout the pregnancy because of the fear in their mind about certain complications that would take their joy away from them. They have invariably waited for long to become mother. There are issues related to the cost of the treatment as many IVF specialists advice for long term use of low molecular weight heparin and certain hormonal supplements throughout the pregnancy. As pregnancy gets special treatment, so also the route of delivery. Majority of these women are delivered by caesarean section increasing the total cost of treatment.

Managing Post IVF pregnancy also brings in some anxiety and apprehension in the mind of treating obstetrician for the following reasons. First, the patient and the relatives insist for guaranteed outcome as they have spent a lot on the pregnancy. Secondly, the IVF expert at times have left the decision making to the obstetrician ,about the controversial issues like need for prophylactic cervical en-circlage, supplementation of progesterone preparations and continuation of low molecular weight heparin.

In the present case, the woman had suffered many complications, one after another throughout her reproductive life for 26 years. She and her husband kept their hopes alive till second attempt of IVF resulted in twin gestation .Things were all right till she developed rupture of membranes at 28-29 weeks of gestation. The couple was seriously upset because of the fear of losing babies due to extreme prematurity. They were counseled about the plan of action and likely outcome .Standard protocol for the management of preterm PROM was followed. Joint consultation with neonatologists, anesthetist was made before decision of caesarean section was undertaken .Both babies were extremely premature at birth and required special attention in neonatal intensive care unit. After initial intravenous fluids, babies were put on expressed breast milk. Babies were given Kangaroo Mother Care (KMC) and were given prophylactic antibiotics for extended period. One baby developed sepsis and DIC, but could be salvaged with prompt and good quality neonatal care. Both babies were kept in NICU for one and a half month .The babies did not have any additional major complication during their stay in NICU. Mother and babies were discharged together after 45 days of hospital stay. Both babies developed mild problem of retinopathy due to prematurity, which was treated at

tertiary care ophthalmic hospital. The babies were growing well till completion of 12 months.

CONCLUSION

Pregnancy following IVF is a high risk pregnancy. It requires more supervision throughout the pregnancy. Patient counseling and good compliance result in optimum outcome. Good neonatal back up support is extremely important for optimum take home baby rate. Joint efforts by Obstetrician, Neonatologists, Anaesthetists, Paediatric neuro-physician help in improving the survival of premature births following post IVF pregnancies.

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REFERENCES

1. Agustsson T, Geirsson RT, Mires G; Obstetric outcome of natural and assisted conception twin pregnancies is similar. Acta Obstet Gynaecol Scand., 199; 76(1): 45-49.
2. Bernasko J, Lynch L, Lapinski R, Berkowitz RL; Twin pregnancies conceived by assisted reproductive techniques: maternal and neonatal outcomes. Obstet Gynecol., 1997; 89(3): 368-372.
3. Moise J, Laor A, Armon Y , Gur I , Gale R; The outcome of twin pregnancies after IVF. Hum Reprod., 1998; 13(6):1702-1705.
4. Olivennes F, Fanchin R, Lédée N, Righini C, Kadoch IJ, Frydman R; Perinatal outcome and developmental studies on children born after IVF. Hum Reprod Update., 2002; 8(2):117-128.
5. Reubinoff BE, Samueloff A, Ben-Haim M, Friedler S, Schenker JG, Lewin A; Is the obstetric outcome of in vitro fertilized singleton gestations different from natural ones? A controlled study. Fertil Steril., 1997; 67(6):1077-1083.
6. *In vitro* fertilisation. Available from http://en.wikipedia.org/wiki/In_vitro_fertilisation