

Untoward Experience With A Nigerian Quintuplet Pregnancy –A Cautionary Call On Assisted Reproduction Units In The Developing World

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Abstract

There is increased risk of multiple pregnancies mostly attributable to assisted reproductive technology treatment. However, there is much concern for higher order multiple pregnancies because of attendant complications. This is a case report on pregnancy and fetal outcomes of quintuplet pregnancy conceived by assisted conception in a low resource setting.

INTRODUCTION

Assisted reproductive technology (ART) - associated higher order multiple pregnancy has remained a source of concern in infertility treatment due to overt psychological, physical and financial challenge that impact the couple, children and even the society as a whole. This concern goes beyond boundaries and is no respecter of the type of setting; be it developed or developing society. What makes the difference is the introduction and implementation of legislations to regulate and guide the practice of assisted conception technology. The American Suleman octuplets case of year 2009 was a recent case that attracted public outcry and vividly demonstrates unlimited patient autonomy in ART treatment decision making that was not balanced with ethical principle of beneficence on the side of the treatment provider. According to Rosenthal, beneficence must surely include the act of 'doing good' in the best interest of not only the mother to be but also her prospective children (1, 2). Though multiple pregnancy in most African settings is viewed as 'joy and blessing in multiples', the act of transferring multiple embryo should be regulated because of medical challenges of managing extreme and very low birth weight babies towards optimising survival. It's due to this background that I present this case report on quintuplet pregnancy in a Nigerian woman.

CASE REPORT

The patient was a 43 year old Para 0 + 2 builder. She had presented to the infertility clinic with complaint of inability to conceive for 2 years despite regular unprotected

intercourse. Clinical assessment revealed a healthy looking lady with BMI of 23.4kg/m². All the systems were essentially normal. She was investigated for secondary infertility. On the third day of her menstrual cycle, Follicular Stimulating Hormone was 16.2mIU/ml and Prolactin level was 15ng/ml. Pelvic ultrasound scan was essentially normal and hysterosalpingography showed bilateral tubal occlusion. The spouse refused to do a semen analysis on account of proof of fertility from previous marriage and this led to separation. She was counselled and asked to be referred for assisted conception. She was refused treatment at the first referral centre because of her single marital status.

At the second ART treatment centre, she conceived at the second attempt of in vitro fertilization and embryo transfer with donor sperm, and was diagnosed with quintuplet pregnancy. She had progesterone support by the vaginal route until the 10th week of pregnancy. An ultrasound scan done by the 10th week showed that one fetus had vanished. Prophylactic cervical cerclage was done at 14th week of pregnancy. She was advised to embark on medical tourism to a developed country for the possibility of either multifetal pregnancy reduction or neonatal intensive care management for anticipated low birth weight babies from preterm delivery; she however declined. She was on bed rest and prophylactic tocolytic (salbutamol) agent. Pregnancy was uneventful until gestational age of 28 weeks and 2 days when she developed preterm contractions, cervical cerclage was removed and she progressed to have live preterm deliveries of 3 female babies and 1 male baby that weighed 0.8kg, 0.85kg, 1.25kg and 0.95kg respectively. They were

managed in the neonatal intensive care unit. Three neonatal deaths occurred on days 2, 5 and 6 post delivery respectively. One female baby survived.

DISCUSSION

Multifetal pregnancy (MFP) is one of the complications of assisted reproductive technique (ART). Since the introduction assisted conception into medical practice, the incidence of MFP has considerably increased (3). Women undergoing invitrofertilization (IVF) treatment have been reported to have a 400- fold increased risk of higher order multiple pregnancies (HOMP) (4). This is related to ovarian hyperstimulation treatment and the practise of multiple embryo transfer into the uterus. However, the policy of multiple embryo transfer resulting in HOMP, as we have in the case presented, poses a challenge to safe medical practice because of the enormous increase in maternal/perinatal morbidity and mortality (5). The huge financial burden on the maternal and neonatal services cannot be overlooked either.

Vanishing embryo was detected in this pregnancy as a result of early pregnancy monitoring, which is customary following ART treatment. Although a natural benefit in term of improving fetal outcome with decreasing number of intrauterine fetus. However, the process of vanishing embryo has been reported to have adverse effect on pregnancy and fetal outcome (6, 7). The adverse outcomes include preterm delivery, low birth weight babies and small for gestational age babies.

The possibility of referral for multifetal pregnancy reduction was discussed with the patient since accessibility to this procedure by medical tourism was not a factorial constraint to consider because she can afford the treatment. Overwhelming evidence is in support of improved maternal and fetal outcome following MFPR for higher order multiple pregnancy to twin or preferably singleton (8, 9). Studies have equally shown that in higher order multiple pregnancy, each live fetus could reduce pregnancy duration by 3.6 weeks and following fetal reduction each fetus could prolong the pregnancy by about 3.0 weeks (10) Even though the procedure of MFPR is not devoid of extreme untoward effect like total pregnancy loss which could militate against its uptake rate, cultural and religious orientation are still uphill task to contend with in most African settings (11)

Maternal complications that may be encountered in MFP are miscarriages, functional cervical incompetence, anaemia,

hypertension, hydramnious, preterm labour/ delivery, antepartum/ postpartum haemorrhage, prolonged antenatal hospitalisation and increased risk of operative delivery. This patient was hospitalised for bed rest and subsequently developed preterm labour and delivery. For quadruplet pregnancy, authors have reported prolong hospitalisation of an average of 56+/- 30 days (12) and preterm labour and delivery rate of 75-95% (13).

Possible neonatal complications are low birth weight, congenital malformations, childhood cancer, neurologic sequelae, cognitive development and behavioural deviations. In this case report we recorded 3 neonatal deaths. The inadequate neonatal unit in terms of equipment and staff expertise, which is typical of most developing countries, may be contributory. Although the American Suleman octuplets survived, perinatal mortality as high as 39.7/1000 total birth was reported by a U.K study (14).

Multifetal pregnancy especially HOMP, must be seen as an unacceptable outcome of assisted conception treatment. A survey of infertility patients revealed that only 20% view quadruplets as acceptable (15). As a result of medical, social and economic consequences of MFP, it has become imperative to put in measures to reduce the incidence, especially in developing countries with inadequate neonatal intensive care treatment. The number of embryo transfer should be limited and guided by the patients' age. Transfer of embryo at blastocyst stage should be encouraged because it has been associated with better implantation and pregnancy rate. Multifetal pregnancy reduction is a procedure that may be employed, although public enlightenment to allay cultural and religious concerns is of paramount importance in most sub-Saharan African settings. De- emphasizing pregnancy rate and supporting live birth rate as a performance indicator of infertility treatment units would discourage multiple embryo transfer. Assisted reproductive technology regulatory body found in most developed countries, which is conspicuously absent in most developing countries would go a long way in enforcing the law.

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