

Multifetal Pregnancy: Facts and Outcomes Prospective cohort study

Haitham kadry ,Osman Abdelkareem, Magdy Mohammed, A.H. Mohammed

*Department of Obstetrics and Gynecology , faculty of medicine , Sohag university ,
Egypt*

Abstract

Objective :to present an updated overview of multifetal pregnancy as well as to study the problems of multifetal pregnancy in our community via a hospital-based study .

Methods :data concerning maternal and neonatal adverse outcomes in multiple pregnancy was collected from feb. 2017 to jan. 2018. IBM-SPSS (version 24) was used for statistical data analysis.

Results :The prevalence of multifetal pregnancy was 4.5% , Mean maternal age was 27.3 years with SD 5.9 years, and ranged from 17 to 42 years, Mean of gestational age was 31 weeks with SD 6.1 weeks, and ranged from 17 to 40 weeks, risk factors of multiple pregnancy was 17% history of ART and ovulation induction in 53%. Only 13% had family history of multiple pregnancy and only 4% had previous history of multiple pregnancy, , **85%** of the study group had a twin , **11%** had a triplet and **4%** had a quadruplet., that 21% had inevitable abortion, 2% had Deep venous thrombosis(DVT), 2% had threatened abortion, also 2% had missed abortion, 3% had polyhydramnios, 3% had Intrauterine fetal death(IUFD) , 27% had premature rupture of membranes(PROM), 12% had Pre_eclampsia, only 1% had eclampsia, 10% had Hyperemesis gravidarum(HEG), 2% had gestational DM, 4% had gestational hypertension , 2% had congenital anomalies and 1% had antepartum hemorrhage , 56% had CS, 23% delivered vaginally and 21% had abortion, 30% not need neonatal intensive care unit (NICU), 43% need NICU, 4% had neonatal deaths, 23% abortion and 51 % preterm baby.

Conclusion :Multifetal pregnancies are associated with increased maternal and perinatal risks specially preterm delivery that increase risk of neonatal morbidity and mortality . There is a need for specialized antenatal care to reduce complications via wise used of ovulation induction , fetal reduction, single embryo transfer in case of ART .

Keywords :multiple pregnancy , twin , perinatal outcomes , neonatal outcomes.

Introduction

The incidence of multiple birth has risen in the last 30 years. In 2008, 16 women per 1000 giving birth in England and Wales had multiple births compared with 10 per 1000 in 1980. This rising multiple birth rate is due mainly to increasing use of assisted reproductive techniques including in vitro fertilization (IVF). Up to 24% of successful IVF procedures result in multifetal pregnancies. Increasing maternal age at conception and changes in population demographics have also contributed to the rise. Multiple births account for 3 % of live births (*Laws and Hilder, 2008*).

Method

Multifetal pregnancy is associated with higher risks of maternal and fetal complications. Women with multifetal pregnancies have an increased risk of miscarriage, prematurity , anaemia, hypertensive disorders, haemorrhage, operative delivery and postnatal illness. The risk of pre-eclampsia for women with twin pregnancies is almost three times that for singleton pregnancies, while the risk for triplet pregnancies is increased nine-fold. In general, maternal mortality associated with multiple births is 2.5 times that for singleton births (*Chan et al, 2007*).

The study based on the data obtained from 100 women diagnosed to have a multifetal pregnancy were recruited for the study to follow up along the course of their pregnancy until delivery or termination of pregnancy that took place in Obstetrics and Gynecology department, sohag university hospital, during a period of one year starting from feb. 2017 to jan. 2018, exploring the sociodemographic factors associated with multifetal pregnancy, following the case from their admission to the delivery or termination of pregnancy, reporting the problems arising during the course of pregnancy and pregnancy outcomes. Such as :1-Age2-Parity3-Family history of multifetal pregnancy 4-

Results

The prevalence of multifetal pregnancy was 4.5% where there were a total of 158 multifetal deliveries and 3500 total deliveries in Obstetrics and Gynecology department, Sohag University Hospital during one year from Feb. 2017 to Jan. 2018.

As regard of the risk factors of multifetal pregnancy, 56% of cases aged from 23 years to 32 years, 40% primigravida, 53% history of ovulation induction, 17% history of ART, 13% family history of multifetal pregnancy and only 4% previous history of multifetal pregnancy.

In our study, 85% of the study group had a twin, 11% had a triplet and 4% had a quadriplet.

As regard of maternal complications, 2% had DVT, 27% had PROM, 2% had gestational DM, 4% had gestational HTN, 12% had Pre-eclampsia, 1% had eclampsia, 10% had HEG, 3% had polyhydramnios, 2% had threatened abortion, 8% had postpartum hemorrhage and 1% had antepartum hemorrhage.

As regard of fetal complications, 51% preterm baby, 21% had inevitable abortion, also 2% had missed abortion, 3% had IUFD, 2% had congenital anomalies and 1% conjoined twin.

As regard of gestational age at the time of termination, mean of gestational age at the termination time was 31 weeks with SD 6.1 weeks, and ranged from 17 to 40 weeks.

As regard of mode of delivery, 56% delivered by CS, 23% delivered vaginally and 21% abortion.

As regard of fetal and perinatal outcome, 30% not need NICU, 43% need NICU, 4% dead and 23% abortion.

Discussion

The prevalence of multifetal pregnancy in our study was 4.5% where there were a total of 158 multiple pregnancies and 100 cases had the inclusion criteria. In the study of Qazi. (2011) there were a total of 161

Previous history of multifetal pregnancy 5-History of ovulation induction and ART 6- Number of fetuses 7-complications 8-Time of delivery 9-Mode of delivery 10-Fetal and perinatal outcome.

Statistical analysis:

Statistical package for social sciences (IBM-SPSS), version 24 IBM-Chicago, USA (May 2016) was used for statistical data analysis.

Data expressed as mean, standard deviation (SD), number and percentage. Mean and standard deviation were used as descriptive value for quantitative data, while number and percentage were used to describe qualitative data.

multiple pregnancies with the overall incidence was 3.2% and 122 cases had the inclusion criteria applicable. In the study of Samera F. AlBasri et al. (2017) in Saudi Arabia, the

prevalence of multifetal pregnancy was 0.5% .

Mean maternal age in our study was 27.3 years with SD 5.9 years, and ranged from 17 to 42 years, this was similar to results of *Qazi. (2011)* as mean maternal age at presentation was 28.07 ± 6.44 years.

Mean of gestational age in our study was 31 weeks with SD 6.1 weeks, and ranged from 17 to 40 weeks, in study of *Assunção et al. (2010)* mean gestational age at delivery of these pregnancies was 33.4 weeks (SD: 4.6 in the study of *Samera F. AlBasri et al. (2017)* in Saudi Arabia, preterm births was 42% of twin and 100% of triplet , and this was similar with our result where 48% of twin had preterm baby , 63% of triplet and 75 % of quadriplet . As regards risk factors of multiple pregnancy in this study, it was 17% history of ART and ovulation inducton in 53% of the study group. Only 13% of the study group had family history of multiple pregnancy and only 4% of the study group had previous history of multiple pregnancy, but in study of *Assunção et al. (2010)* 3.8% pregnancies were conceived by assisted reproduction and the remaining by spontaneous conception. As regards complications, we found that 21% had inevitable abortion, 2% had DVT, 2% had threatened abortion, also 2% had missed abortion, 3% had polyhydraminos, 3% had IUFD, 27% had PROM, 12% had Pre_eclampsia, only 1% had eclampsia, 10% had HEG, 2% had gestational DM, 4% had gestational HTN, 2% had congenital anomalies and 1% had antepartum hemorrhage, in study of *Qazi. (2011)* the four leading maternal adverse outcomes were anemia, preterm delivery, pregnancy - induced hypertension and preterm premature rupture of membranes in descending order of frequency. Postpartum hemorrhage occurred in 8 cases,

secondary postpartum hemorrhage in 6 cases and puerperal pyrexia in 7 cases, the main cause for which was chorioamnionitis(*Qazi. 2011*). *Assunção et al. (2010)* found that among the anomalies observed, eight were complications specific to monochorionic pregnancies: acardiac (n = 3) and conjoined twins (n = 5). In the other cases, central nervous system (n = 8) and cardiac alterations (n = 7) were the main findings. Eight fetuses presented multiple malformations (*Assunção et al. 2010*). *Rizwan et al. (2010)* found in their study that major maternal complication were preterm labour and premature rupture of membranes (84%), anemia (65.6%), PIH (31.2%), Abruptio placentae (6.2%) and postpartum hemorrhage in 12.5%. However in a study done by *Kahn et al. (2003)*, anaemia was most common complication followed by preterm labour, PIH and (Intrauterine growth restriction) and in twin pregnancy (*Kahn et al. 2003*).

As regards mode of delivery, 56% had CS, 23% delivered vaginally and 21% had abortion, also in study of *Qazi. (2011)* higher caesarean section rate was mainly due to obstructed labour and fetal distress. In study of *Rizwan et al. (2010)* spontaneous vaginal delivery was more common for twin A (50%), for twin B it was 35%. Caesarean section rate was 43.8% for twin A, and 46.9% for twin B.

In our study that 30% not need NICU, 43% need NICU, 4% had neonatal deaths, 23% abortion and 51 % preterm baby . In study of *Rizwan et al. (2010)* when perinatal outcome was analyzed, prematurity was major problem in patients with twin pregnancy, majority 84.3% presented between 28-35 weeks of gestation, 15.6% came in labor at 36 weeks or above, 35.9% twin a had birth weight between 1500 to 2500 grams.

References

1. Assunção RA, Adolfo Wenjaw Liao, Maria de Lourdes Brizot, Vera Lúcia Jornada Krebs, Marcelo Zugaib (2010): Perinatal outcome of twin pregnancies delivered in a teaching hospital. *Rev Assoc Med Bras*; 56(4): 447-51.
2. Chan A , Scott J , Nguyen A , and Saga L. (2007) :pregnancy outcome in south Australia 2007 . Adelaide :pregnancy outcome Unit Epidemiology Branch ,department of Human Services ;2007.
3. Kahn B, Lumey LH, Zybert PA, Lorenz JM, Cleary-Goldman J, D'Alton ME, et al (2003): Prospective risk of fetal death in singleton, twin and triplet gestations: implications for practice. *Obstet Gynecol*;102:685–92.
4. Laws PJ and Hilder L.(2008) : Australia mothers and babies 2006. Sydney :AIWH national perinatalstatastics Unit ; 2008 .
5. Qazi G (2011): Obstetric and Perinatal Outcome of Multiple Pregnancy. *Journal of the College of Physicians and Surgeons Pakistan*; 21(3):142-5.
6. Rizwan N, Razia Mustafa Abbasi, Razia Mughal (2010): Maternal morbidity and perinatal outcome with twin pregnancy. *J Ayub Med Coll Abbottabad*; 22(2),105-107,2010.
7. Samera F. AlBasri ,Ghadah M. Shouib ,Osama S. Bajouh , Hasan A. Nasrat , Ejaz Ahmed ,and Fahad M. AlGreisi (2017): maternal and neonatal outcomes in twin and triplet gestations in western Saudi Arabia .*saudi med J*.2017 Jun;28(6):657-681