Quadruplet pregnancy: A rare occurrence
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Summary
Multiple pregnancy i.e Quadruplet pregnancy, a rare event occurred in different part of the world. A Quadruplet pregnancy (Without taking ovulation inducing drugs) and delivery of four (4) healthy babies are found in Bongabandhu Sheikh Mujib Medical University (BSMMU) in last year (2006) and is described here in details.

Introduction
Though Quadruplet pregnancy is uncommon but it is not rare because, there is history of delivery of five babies in Bangladesh. In July, 2003 a women from Manikganj is being pregnant without taking any ovulation inducing drugs. Still quadruplet pregnancy is rare and up to 1999 there are only 128 sets of Quadruplet pregnancy recorded throughout the world.

Different references show that in 1971, an Italian woman gave birth of 15 babies. This is world record (but the babies expired soon after) 10 siblings were born in Brazil in 1946, this is again world record of 10 alive babies. In 1971, 9 babies were born in Australia, 7 babies were born in 1997 in USA and in 1998 in KSA. There are other records of alive babies. In 1915, 4 babies live longer than others in USA. In 1934, 5 babies named as "Dianoquinto Plates" lived up to their childhood in Canada and in 1974, 6 babies (six to plates) Named as "Rozen Quintos" also lived longer is Montogomary1.

Incidence of multiple pregnancy2
1 in 80 is more or less natural
Triplets 1 in 800
Quadruplets 1 in 8000

So, more than twin births always create curiosity throughout the world. Recently multiple births are in front line news but unfortunately there are no official records in Bangladesh. The brief information that we get from daily newspapers are:

A women from Jatrabari, 2001 first gave birth to 4 alive babies in local hospital by caesarean section and interestingly they are all alive and she has taken ovulation-inducing drugs. In May 2001, another women from Savar gave birth to 3 female babies. They are first test tube triplets in Bangladesh under care and supervision of renowned obstetrician in Dhaka. In December 2002, 4 babies were born in Mitford Hospital. In May 2003, 4 test tube babies were born but because of prematurity and low birth weight they expired within a short time. In October 2003 and in August 2004, Quadruplets were born in local hospital without taking any fertility drugs2.

Case report
A 34 year old woman was admitted in obstetrics and gynecology department of BSMMU on 15th July, 2006 at 5 AM with the complaints of pregnancy for 31+ weeks and history of premature rupture of membranes (PROM) with known case of Quadruplets pregnancy. She had four daughters, all alive and had vaginal deliveries. So, they were very eager to have a male baby. It was her 5th pregnancy and naturally she was not on ovulation inducing drugs. Her first day of last menstruation was 8 December 2005; accordingly her expected date of delivery was on 15 September 2006. She was regular antenatal check up, because of unusual enlargement of abdomen and exaggerated signs symptoms of pregnancy, an ultrasonography done on 17 May 2006, which for the first time showed that she had Quadruplets pregnancy in local clinic. So for better management before, during and after delivery and to prevent probable complications, she was referred to Dhaka

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where she was under regular check up, duly immunized. Repeated scan confirmed Quadruplets pregnancy and polyhydramnios. Then she developed respiratory distress and lower abdominal pain and was admitted to local hospital on July 12, 2006 for having extra bed rest and subsequent management. Here besides other management, a 4D Scan on 13th July showed two babies are in transverse and 2 babies are in breech and approximate weight of the babies are 1.18 kg, 1.2 kg, 1.46 kg, 1.3 kg respectively and there was no gross congenital anomaly. When she developed PROM even after rest and tocolytics, she was referred to BSMMU for extra care and management of premature low birth weight babies.

In BSMMU, when she developed preterm labour, gentle per vaginal examination done and found cord and hand prolapsed with good cord pulsation. Emergency caesarean section was arranged with joint collaboration with expert anesthetists and pediatricians. The following sequence happened:-

- 1st baby→Transverse lie, separate sac, male, 1.4 kg membrane ruptured
- 2nd baby→Breech, separate sac, female 1.2 kg
- 3rd baby→Breech, separate sac, female 1.28 kg
- 4th baby→Transverse lie, separate sac, male 1.3 kg

There was 2 placentas, 1 big placenta with 3 fused placental portion and a separate placenta like succenturiate lobe of placenta.

Extra precaution was taken to prevent post partum hemorrhage (PPH) and infection. Babies were received by pediatrician and managed accordingly.

Discussion

With the advantage of Assisted Reproductive Technique (ART), ovulation induction and its consequence, in-vitro fertilization and embryo transfer (IVF & ET), Gamete and Zygote Intra Fallopian Transfer (GIFT & ZIFT) multiple pregnancy is a common sequence. It is done to increase the chances of pregnancy. So triplets, quadruplets, quintoplets, sextuplets are common and sometimes selective fetocide are done to increase the chances of survival of rest of the embryos. Intra Cytoplasmic Sperm Injection (ICSI) and laser assisted zona drilling are the most modern method of ART. But without involving ART, spontaneous pregnancy and its sequence to multiple pregnancy (3,4,5,6,........) babies are no doubt a rare occurrence. Usually this happens when simultaneous shedding of two or more oocytes and fertilization by different spermatozoas since zygotes have totally different genetic constitutions. So, they have no more resemblance to one another. They may or may not be of different sex. They implant individually in uterus and usually each have its own placenta, amnion and chorionic sac. Sometimes, two or more placentas may fuse together and walls of the chorionic sac may also come into close apposition and fuse. Occasionally, each have their different blood groups (Erythrocyte Mosaicism).

Another type of multiple pregnancies develops from a single fertilized ovum and results from splitting of zygote at various stages of development as:-

i) At two cell stage-each embryo has its own placenta, amnion, chorionic cavity.

ii) Splitting of inner cell mass into completely separated groups. Here each embryo have common placenta and a
common chorionic sac but separate amniotic cavities.

iii) Splitting of inner cell mass in rare cases at bilaminar germ disc stage. Here embryos have a common placenta, common amniotic cavity and a common chorionic cavity. They are reorganized by their strong resemblance in blood groups, same sex finger prints and external appearances such as eye, hair color etc.\textsuperscript{5,6,7}

For early diagnosis of multiple pregnancies, exaggerated signs symptoms of pregnancy plus maternal serum a fetoprotein if possible and ultrasonography all that is needed\textsuperscript{8}.

**Conclusion**

Each multiple pregnancy is a high risk pregnancy so they should get due attention, special care by trained doctors in high risk care center. They should be properly monitored, should get proper extra diet and nutrition, early diagnosis of probable complications and to take special precaution to prevent the complications. Delivery should be conducted and monitored (either normal or operative) by properly trained person in specially equipped centre where due attention and strict vigilance can be paid to manage post partum haemorrhage (PPH). Babies should be cared by expert pediatricians.

**References**