

Sextuplets in Oman

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ABSTRACT

Use of ovulation inducing agents has increased the incidence of high order multifetal gestation. Such pregnancies are associated with increased maternal morbidity and poor perinatal outcome especially due to prematurity. Here, we report a case of sextuplet pregnancy following ovulation induction with gonadotrophins. This is the first reported case of sextuplets from Oman.

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The incidence of multi-fetal gestation has increased significantly since the introduction of ovulation induction therapy and in vitro fertilization and embryo transfer techniques. Multi-fetal gestation is associated with increased frequency of maternal complications and higher perinatal morbidity and mortality. As the number of fetuses increases, the duration of gestation and birth weight decreases. The ultimate outcome of multi-fetal gestation relates in part to the number of conceptuses and the quality of obstetrical and neonatal care.¹ Multiple gestation occurs in 6-8% of pregnancies induced with clomid and 20-40% induced with gonadotrophins, but most of these are twins.² Information on perinatal outcomes for larger order gestations is scanty; thus, counseling pregnant patients with super multiples and planning their management is hampered.² We report a case of sextuplet pregnancy following ovulation induction with the first cycle of a small dose of gonadotrophin injections. To our knowledge, this is the first reported case of sextuplets from Oman.

Case Report. The patient was a 25-year-old Omani lady, referred to our hospital with primary infertility for 8 years. She was diagnosed to have polycystic ovarian disease and non-insulin dependent diabetes mellitus controlled with oral hypoglycemic agents. Her husband was 42-year-old, and his recent semen analysis showed a sperm count of 9 million/ml

and motility of 60%. She had attempts of ovulation induction in different hospitals with increasing doses of Clomiphene citrate up to 200 mg per day (cycle day 3-7) for 12 cycles. She conceived in the first cycle of ovulation induction with human menopausal gonadotrophin (HMG) 1 amp (follicle-stimulating hormone 75 iu + luteinizing hormone 75 iu) daily for 7 days. The ovarian response was monitored by vaginal ultrasound, which showed one pre-ovulatory follicle of 20 mm and multiple smaller follicles, with endometrial thickness of 11.9 mm. Human chorionic gonadotrophin 10,000 iu was given and the following day intrauterine insemination (IUI) was carried out with husband's washed sperms. Two weeks later she was admitted with ovarian hyper-stimulation syndrome (OHSS) and stayed in the hospital for one month. Ultrasound scan at 6 weeks gestation showed 4 intrauterine gestational sacs, and a repeat scan at 8 weeks showed sextuplet pregnancy, all with cardiac activity. Multi-fetal reduction was advised in view of the increased maternal morbidity and poor perinatal outcome in such a case. Due to religious and financial reasons the couple rejected the advice. Prophylactic cervical cerclage was inserted at 13 weeks of gestation. She was on insulin injections from the beginning of pregnancy, and her diabetes was well controlled. Ultrasound scans performed at 3-4 weeks interval showed satisfactory growth of all fetuses. She was on iron and folic acid

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Table 1 - Details of the sextuplets.

Presentation	Sex	Weight (gms)	Apgar	Problems	Resp. Support	Outcome
Breech	Boy	650	2:7s	Severe RDS, hypotension, sepsis CLD	SIPPV x 5 days. N. CPAP x 30 days	No ROP, no IVH, Wt - 6.3 kg at 7 months corrected age
Breech	Girl	660	3:7s	Severe RDS, hypotension, sepsis, hyperbilirubinemia, CLD	SIPPV x 11 days N. CPAP x 24 days	No ROP, no IVH, Wt - 5.7 kg at 7 months corrected age
Cephalic	Girl	930	3:7s	RDS, hypotension, sepsis, hyperbilirubinemia, ROP stage III-cryotherapy-bilateral	SIPPV x 4 days N. CPAP x 21 days	No IVH, vision normal, Wt - 6.99 kg at 7 months corrected age
Cephalic	Girl	780	3:7s	Severe RDS, hypotension, hyperbilirubinemia, sepsis, ROP stage II, zone II-regressed	SIPPV x 5 days N.CPAP x 15 days	No IVH, normal vision, Wt - 6.13 kg at 7 months corrected age
Breech	Boy	800	2:7s	RDS, CLD, fungal sepsis	SIPPV	Died at transferred hospital
Cephalic	Boy	500	2:7s	Severe RDS, sepsis, IVH-grade III-resolved, CLD, bilateral inguinal hernia-corrected, intestinal obstruction-resection ischemic segment-ileum	SIPPV x 26 days N. CPAP x 60 days	No hydrocephalus, no ROP, Wt - 4.6 kg at 7 months, CLD resolving on bronchodilators
RDS - respiratory distress syndrome, CLD - chronic lung disease, ROP - retinopathy of prematurity, Resp. - respiratory IVH - intraventricular hemorrhage, SIPPV - synchronized intermittent positive pressure ventilation, N.CPAP - nasal continuous positive airway pressure						

supplements. At 23 weeks she was advised admission for bed rest, which she refused. Her blood pressure continued to be normal, and she did not experience any premature contractions. At 27 weeks, she was admitted for prophylactic steroids. Dexamethazone 12 mg intramuscularly 2 doses; 12 hours apart was given. An elective cesarean section (CS) was planned at 30 weeks after requesting help from the special care baby units of nearby hospitals, which agreed to accept babies if needed. At 28 weeks of gestation, while admitted in the hospital, she went into preterm labor. The cervix was torn and dilated with bulging membranes. An emergency lower section cesarean section was performed after arranging all available neonatal support. Six neonatal doctors with separate resuscitators remained ready to resuscitate the babies, so as to prevent any asphyxial compromise. The details of the newborn babies are shown in **Table 1**. There were 6 placentas, 3 separate and 3 fused together with no apparent connections. Babies proved to be of multizygotic origin as a result of super ovulation. The total weight of placenta was 1100 gms. The estimated blood loss was 450 mls. After the C/S the cerclage was pulled out, and the anterior longitudinal tear on the cervix closed. Postoperatively, patient developed tachypnea and decreased oxygen saturation, which settled within a day. She was discharged on the 9th postoperative day to stay with the babies in the neonatal unit (NICU). All the babies required active resuscitation with intubation and intermittent positive

pressure ventilation. All of them developed severe hyaline membrane disease requiring surfactant and ventilation (**Table 1**). Due to the non-availability of ventilator, one baby had to be transferred to a nearby tertiary hospital, where; unfortunately, he developed septicemia and died. The smallest baby (sextuplet 6) had a stormy course (**Table 1**). Babies remained in the intensive care unit for 9 months, under close supervision, monitoring and feeding. Follow up to 2 years of age showed a steady increase in the growth parameters (weight, length and head circumference). Although they have been below the third centile, the developmental milestones have been within normal limits for all the babies. The surviving 5 sextuplet babies at the age of 6 months and 2 years are shown in **Figure 1**.

Discussion. More widespread use of assisted conception technology has increased the incidence of multiple pregnancy.^{3,4} The implications of the increasing numbers of higher multiple births on the newborn services have caused concern to both obstetricians and neonatologists. While maternal complications occur on one side, on the other side multiple births contribute disproportionately to the overall numbers of stillbirths, infant deaths, and to extreme low birth weight preterm babies. Medical problems are basically the problems of prematurity; its complications and the number of cases put a strain on the limited beds of a NICU. In our situation also, one baby had to be transferred to a nearby



Figure 1 - The surviving 5 sextuplet babies at the age of 6 months.

hospital, due to lack of ventilator. There is as well much greater demand on the medical and nursing services, on the parents and considerable economic and social strains on the national health system and the family.⁵ It is important that social groups and voluntary organizations should be involved in the further management in such situations. In our index case, the mother had only a single bedroom house. With the help of donations from various charitable organizations and personals, we managed to provide an extra room with toilet facilities for the babies. One food industry has taken over the responsibility of providing milk powder and cereals for the sextuplet babies. Quadruplet (4), quintuplet (5), and sextuplet (6) pregnancies are relatively rare. To the best of our knowledge, till today, only 95 sextuplet cases are reported in the world literature. Complications are high and chances for a healthy baby are also of concern. Not only is there morbidity resulting from extreme prematurity, but also perinatal mortality up to 41% and infant mortality up to 50% has been reported, in sextuplet deliveries.⁶ Early diagnosis by ultrasound, meticulous antenatal care, early hospitalization, delivery by CS, and on the site availability of a neonatologist for each baby at the time of delivery plus a highly functional NICU are the major determinants of improved outcome,¹ as in our index case. The surviving infants of these pregnancies are at high risk for neuro-developmental abnormalities. However, on follow up to 2 years of age,

all our babies had neurodevelopment appropriate for the age.

The much greater risks of preterm delivery, death and neurological handicap among high order births have led to the development of multi-fetal pregnancy reduction to a twin gestation. But, selective feticide though accepted, has umpteen religious and ethical issues. In our case, parents refused selective feticide on religious and financial concerns. The risk of the procedure, particularly the possibility of losing the entire pregnancy, must be balanced against the risk of continuing the gestation.⁷

This case of sextuplet delivery was diagnosed from Oman. Good antenatal care, obstetric management, availability of trained neonatologists at delivery and high quality neonatal intensive care has been responsible for the intact survival and neurodevelopment appropriate for age, for these babies. However, high order multi-fetal gestation leads to tremendous strain on limited health, social and economic resources of the country, in addition to the great stress for the concerned family.

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