HIGH ORDER MULTIPLE PREGNANCY – ANTENATAL CARE GUIDELINE

1. OPTIMAL OUTCOMES
   • Assessment and management for woman with high order multiple pregnancy according to hospital guidelines
   • Woman appropriately informed about outcomes of high order multiple pregnancy and option of multifetal reduction

2. PATIENT
   • Woman pregnant with three or more live fetuses

3. STAFF
   • Medical staff
   • Registered midwives
   • Sonographers
   • Social workers
   • Genetic counsellors

4. EQUIPMENT
   Nil

5. CLINICAL PRACTICE
   Antenatal Care
   • Advise publicly booked woman with a high order multiple pregnancy to receive antenatal care through the hospital’s multiple pregnancy clinic at the time of booking
   • Book ultrasound for first trimester assessment and nuchal translucency measurement
   • Recommend iron, folate and calcium supplements: elemental iron 30mg/d, folate 0.5mg/d and calcium 1000mg/d minimum doses in woman without documented deficiency or dietary restriction
   • Offer information and non-directive counselling regarding multifetal reduction for woman carrying >2 fetuses in first trimester. This can be provided by the medical staff of the multiple pregnancy clinic or through the Department of Maternal Fetal Medicine. Neonatal consultation should also be offered to discuss outcomes of prematurity
   • Perform screening for gestational diabetes at 16 weeks and 26-28 weeks
   • Perform fetal morphology scan at 18-20 weeks
   • Perform ongoing serial growth and well-being scans according to the number of surviving fetuses:
     o if twin survival, refer to twin guideline
     o scan high order multiple pregnancies every two weeks, request cervical length
   • Arrange routine neonatal review for woman with high order multiple pregnancy prior to 23 weeks gestation to discuss management in the event of pre-term labour
   • Arrange antenatal consultation with lactation team
   • Arrange social work consultation
   • Recommend to attend multiple birth antenatal education classes at RHW
   • Advise woman of NSW Multiple Birth Association and other support networks
   • Consider dietician referral for BMI < 18 or > 30, or specific nutrient deficiencies or dietary restrictions
   • Review woman in clinic:
     o at least once during first trimester
     o every 4 weeks thereafter until 18-20 weeks scan
     o every fortnight from time morphology scan to 28 weeks
     o every week till delivery

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HIGH ORDER MULTIPLE PREGNANCY – ANTENATAL CARE GUIDELINE  cont’d

Birth planning
- Advise woman with high order multiple pregnancy to birth via elective caesarean section at approximately:
  - 34 weeks in an otherwise uncomplicated triplet pregnancy
  - 32 weeks in a quadruplet pregnancy
- Commence birth planning by the 28 week visit including:
  - antenatal consultation with anaesthetists
  - antenatal consultation with nursery team and provide written information regarding outcomes of prematurity
  - recommendation of antenatal steroids for elective caesarean section
  - written documentation of informed consent for delivery by caesarean section
- Offer pre-expression of breast milk

6. HAZARDS/SUB-OPTIMAL OUTCOMES
- Unplanned pre-term delivery
- Failure to offer counselling regarding multifetal reduction in high order multiples before 14 weeks
- Parents uninformed regarding decision making and care of the very preterm baby

7. DOCUMENTATION
- Integrated clinical notes
- Yellow card
- ObstetriX

8. EDUCATIONAL NOTES
- High order multiple pregnancies are increasing in frequency and are often a result of assisted reproductive technology.
- They are most commonly trichorionic triamniotic (TCTA, three fetuses each with their own placenta), or dichorionic triamniotic DCTA (i.e. monochorionic twin pair and “singleton”). Monochorionic high order multiples (three fetuses sharing one placenta) are extremely rare.
- High order multiple pregnancies are associated with a very high likelihood of premature delivery, increased fetal and maternal complications.
- Maternal risks:
  - hypertensive diseases of pregnancy
  - gestational diabetes
  - hospitalisation, cholestasis, abruption
  - postpartum haemorrhage
  - risks associated with caesarean delivery.
- For triplets mean gestational age at delivery is 33 weeks, early pre-term birth < 32 weeks 30%, extreme prematurity < 28 weeks 8%, miscarriage/ pregnancy loss < 24 weeks 4%
- Multifetal reduction (MFR) is the termination in the first trimester or early second trimester of one or more fetuses in a multiple pregnancy, performed to increase the chances of survival of the remaining fetuses and to decrease long-term morbidity of the remaining fetuses. It is usually performed at 11-14 weeks by intracardiac injection of potassium chloride under ultrasound guidance.
- In pregnancies where a fetal reduction has taken place before 20 weeks, registration of the demised fetus as a stillbirth is not required.
- The most common scenario is the reduction of a TCTA pregnancy to twins.
- Fetal reduction of one member of a monochorionic twin pair is not performed due to the risks of harm to the co-twin. Therefore, in a DCTA high order multiple pregnancy, reduction of both members of the monochorionic pair to produce a singleton pregnancy is often offered due to the high perinatal mortality and morbidity of continuing with MCDA twins compared with a singleton.
HIGH ORDER MULTIPLE PREGNANCY – ANTENATAL CARE GUIDELINE  cont’d

- There are no randomised controlled trials (RCTs) to evaluate the risks and benefits of MFR. The decision to accept or decline MFR rests solely on patient preference and counselling should be non-directive.
- The overall “take-home baby” rate is high in those high order multiples not undergoing MFR (94%) than those undergoing MFR (91%), mainly due to a reduction in previable losses.
- A systematic review (Papageorghiou AT et al 2006) calculated that in TCTA triplet pregnancies, MFR to twins compared with expectant management results in:
  - High rate of pregnancy loss before 24 weeks (8% vs 4%)
  - Lower rate of preterm delivery < 32 weeks (10% vs 27%)
  - High median birth weight (2300g vs 1760g)
  - Prolongation of pregnancy by about 3 weeks (36 versus 33 weeks)
  - Number needed to treat: Seven MFR would be needed to prevent one early preterm delivery < 32 weeks
  - Number needed to harm: 26 MFRs would result in one additional pregnancy loss < 24 weeks
- Assuming similar survival and disability rates from premature singletons, MFR could reduce the risk of severe disability from about 1.5% to 0.6%.
- There is very little information about the long-term impact of death of a co-multiple early in pregnancy on the welfare of survivors.
- Studies using standard psychological tests to assess the emotional state of the woman after multifetal reduction have not identified any serious long-term psychological sequelae.
- Epidemiological studies suggest that the nadir for perinatal mortality for triplet pregnancies occurs at 34-35 weeks of gestation (Luke 1996). However, there are no prospective trials to test the hypothesis that elective delivery at this gestation improves outcomes.

9. RELATED POLICIES/ PROCEDURES/CLINICAL PRACTICE GUIDELINES

- Multiple birth guideline
- Obesity in pregnancy, labour and delivery
- Anaemia in pregnancy
- Twin pregnancy – Antenatal care
- Diabetes in pregnancy service

10. REFERENCES
- Multiple gestation: complicated twin, high order multiple, and high-order multifetal pregnancy. ACOG Practice Bulletin No. 56, October 2004.
- RCOG Multiple Pregnancy 50th study group statement 2005