FETICIDE AND MULTI-FETAL REDUCTION

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM

- Feticide under aseptic conditions to induce fetal asystole/death

2. PATIENT

- Woman requesting fetal demise prior to medical or surgical termination of pregnancy
- Woman requesting selective feticide for fetal anomaly or multi-fetal reduction of a higher order multiple pregnancy

3. STAFF

- Maternal Fetal Medicine (MFM) Medical and Midwifery Staff
- Genetic Counsellors
- Social Workers
- Medical Staff
- Sonographers

4. EQUIPMENT

- Ultrasound machine
- Catheter pack or anaesthetic prep pack
- 20G Chiba biopsy needle
- 22G spinal needle
- 23G, 21G, 18G (drawing-up) needles
- 1mL, 3mL, 5mL and 10mL syringes
- Sterile gauze swabs
- Sterile drapes
- Sterile ultrasound probe cover
- Sterile lubricating gel sachet
- Band-Aids
- Chlorhexidine 0.5% in alcohol 70%, 25mL
- *Sterile gown and gloves*

5. MEDICATION

- Lignocaine 2%, 2 x 5mL ampoules
- Sterile potassium chloride (KCl) concentrate 10mmol (0.75g) in /10mL
- Rocuronium bromide 50mg in 5mL (for fetal paralysis as required)
- Morphine 10mg/1mL (for fetal analgesia as required)
- Lorazepam 1-2mg oral tablet

6. CLINICAL PRACTICE

- Counsel woman with MFM specialist regarding most likely clinical scenarios and options. Arrange appropriate, sympathetic, and supportive medical and psychosocial counselling to the woman and her family
- Ensure woman has met with a Social Worker for consultation, counselling and to identify any other appropriate service that may be of benefit
- Ensure care is reflective of, and fits within the Framework for Termination of Pregnancy in New South Wales (PD2019_048)
- Advise woman of the risks from the procedure, including miscarriage of entire pregnancy, when selective reduction is requested

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- Obtain written informed consent for procedure
- Consider administering Lorazapam orally for maternal anxiety at least 30 minutes before procedure (if required)
- Perform procedure under ultrasound vision using aseptic technique
- Confirm site of relevant fetus(es) on ultrasound and chorionicity
    - When performing selective feticide, state the position of the affected fetus aloud and document with two clinicians confirming correct fetus
    - When performing multi-fetal reduction, select fetus furthest away from cervix where possible or fetus with greater number of markers for aneuploidy: e.g. large nuchal translucency, shortest Crown Rump Length (CRL)
- Administer local anaesthetic 2% lignocaine 5mL to the woman at planned insertion site by subcutaneous injection
- Consider the use of rocuronium bromide for fetal paralysis using the following doses:
    - Less than 30 weeks gestation, 2mg (i.e.0.2mL) by intramuscular (IM) injection into fetus
    - Greater than 30 weeks gestation, 3mg (i.e 0.3mL) by IM injection into fetus
- Consider the use of IM morphine to the fetus for analgesia in gestations of 24 weeks and above at a dose of 100 mcg/kg
- Enter amniotic cavity under ultrasound visualisation, aim for intra-cardiac injection of potassium chloride (KCl)
- Aspirate fetal blood to confirm correct needle placement into the fetal heart, then inject KCl (10mmol/10mL):
    - First trimester 1-2 mL
    - Second trimester 5 mL
    - Third trimester 10 mL
- Watch on ultrasound for asystole. A repeat injection of KCl up to 10mmol/10mls may be required if asystole has not occurred after 30-60 seconds[1]
- Watch for a further two minutes to confirm asystole
- Re-scan 10 - 30 minutes later to ensure fetal asystole is maintained and to confirm fetal death
- Arrange appropriate follow up with the woman's primary clinicians
- Arrange admission for induction of labour where appropriate
- Ensure staff offered similar support if required

7. DOCUMENTATION

- Medical Record
- ViewPoint procedure report

8. EDUCATIONAL NOTES

- Inducing fetal death before medical abortion may have emotional, ethical and legal implications[2]
- The use of intra-cardiac KCl is considered the most effective method of feticide[3]
- A small prospective observational study of 37 cases, 18 of lignocaine and 19 of KCl demonstrated no significant difference between time to fetal demise or adverse events, but minimises the risk of passage of KCl to maternal circulation
- Dosing of KCl:
    - In one series of 239 terminations of pregnancies 20+5 to 37+5 week gestation, the mean dose of KCL 15% (equivalent to 20mmoL/10mL) required was 4.7mL with a range of 2-10mL[3]
    - In another series of 138 terminations of pregnancies 26-41 weeks of gestation, fetal demise was confirmed at two minutes in 100% of cases following intracardiac KCl 15% injection of mean volumes of 8mL (GA 24-25 weeks), 10mL (26-30 weeks) and 13mL (>30 weeks), with nil maternal complications recorded[4]

FETICIDE AND MULTI-FETAL REDUCTION cont'd

- Complications of KCl feticide:
  - There are four reported cases of maternal infection, including one case of sepsis, in the literature secondary to KCl feticide[5]
  - There is one reported case of inadvertent maternal intravascular injection of KCL necessitating successful resuscitation of the mother[5]
- Other methods of feticide:
  - Fetal demise may also be induced by intra-amniotic or intrathoracic injection of digoxin (up to 1mg) and by umbilical venous or intracardiac injection of 1% lidocaine (up to 30mL), however records less consistent rates of fetal demise when compared to intracardiac KCl[5,6] and increased complications [7]

9. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOP

- Termination of Pregnancy – Frame work
- Framework for Termination of Pregnancy in NSW – PD2019_048
- Termination of Pregnancy (Medical and Surgical 1st, 2nd and 3rd Trimester) - Admission
- Misoprostol and Mifepristone for Medical Termination of Pregnancy and or Fetal death

10. RISK RATING

- Moderate

11. NATIONAL STANDARD

- Standard 5 -Comprehensive Care

12. REFERENCES

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2. RCOG: The Care of Women Requesting Induced Abortion: Evidence-based Clinical Guideline Number 7. *Royal College of Obsetricians and Gynaecologists* 2011. https://www.rcog.org.uk/globalassets/documents/guidelines/abortion-guideline_web_1.pdf; April 2020.
3. Pasquini L, Pontello V, Kumar S: Intracardiac injection of potassium chloride as method for feticide: experience from a single UK tertiary centre. *BJOG* 2008, 115(4):528-531. https://www.ncbi.nlm.nih.gov/pubmed/18271890.
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5. Diedrich J, Drey E, Planning SoF: Induction of fetal demise before abortion. *Contraception* 2010, 81(6):462-473. https://www.ncbi.nlm.nih.gov/pubmed/20472112; April 2020.
6. Molaei MJ, H.E.; Weiselberg, T.; McManama, M.; Bassell, J.; Westhoff, C.L.: Effectiveness and safety of digoxin to induce fetal demise prior to second-trimester abortion. . *Contraception* 2008, 77:223–225.
7. Gynecologists ACoOa: Second-trimester abortion: Practice bulletin. *American College of Obstetricians and Gynecologists* 2013(135). https://www.acog.org/clinical/clinical-guidance/practice-bulletin/articles/2013/06/second-trimester-abortion.

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