Induction of Labour - Intrauterine Death- Full Clinical Guideline

Reference no.: IP/11:15/F10

INDUCTION OF LABOUR FOLLOWING INTRAUTERINE FETAL DEATH (SPONTANEOUS OR INDUCED)

Executive summary

To be followed in the event of the death of the fetus in the late second or third trimester, where induction of labour is required. This may be due to a spontaneous intra-uterine fetal death or following termination of pregnancy for fetal abnormality. Termination may have commenced with feticide using intra-cardiac potassium chloride if taking place beyond 20 weeks gestation.

Consent
Valid consent must have been obtained. Blood should have been taken for full blood count and Group & Save, as well as for any other investigations indicated

Second Trimester
In general, sensitivity to Misoprostol (synthetic prostaglandin E1 analogue) increases with gestation and is further increased by both fetal demise and administration of Mifepristone (progesterone receptor blocker) 36 to 48 hours prior to Misoprostol.

Induction of labour with intra-uterine fetal death (IUFD) between 12 and 24 weeks gestation
See body of guideline – page 3 section 5.1

In-Patient Care
Up to 20 weeks gestation, the most appropriate place for administration of Misoprostol to take place would be on the gynaecology ward. Beyond 20 weeks, administration of Misoprostol should take place on labour ward wherever possible

Implications of a Uterine Scar
The presence of a previous Caesarean section scar significantly increases the risk of uterine rupture, but there is no good trial evidence to identify any one best method of induction in this situation. Women with a uterine scar requiring induction of labour for IUFD should therefore be counselled about the risk of uterine rupture and the appropriate regimen for the gestation (as above) to be commenced with caution

Induction of labour following fetal death in the third trimester
See body of guideline – page 4 section 6

Multiple Pregnancy
Where two or more fetuses require delivery after they have died, a plan for intrapartum care should be formulated by the Consultant Obstetrician overseeing their delivery.

Gender Determination of Miscarried or Terminated Fetus
It is not always possible to confirm the gender of the fetus below 24 weeks and if this is the case a 2nd opinion must be sought.

Documentation of Initial Examination of the Baby Following Intra-Uterine Fetal Death
Description of the condition of the baby may help estimate the time of intrauterine death, thus helping clarify the events around this time, particularly if a post-mortem (PM) has been declined. This can be carried out by the midwife/obstetrician or paediatrician if present, and documented in the medical records.

Description's to be used are listed -page 6 section 10.1

Caring for Parents Post Delivery
Place of transfer should be according to mother's preference. The woman may wish to go home, stay on Labour ward, be cared for on the postnatal ward 314 or transfer to the gynaecology ward 209.

Request for Post Mortem
Obtaining consent should be the responsibility of a member of the team suitably trained in obtaining consent. Good practice recommends that consent for examination is obtained for all fetuses, both pre and post 24 week's gestation.

Lactation Suppression
If pharmacological lactation suppression is given, a single oral dose of Cabergoline 1mg post-delivery is the optimal treatment, with fewer side effects and less rebound lactation.

INDUCTION OF LABOUR FOLLOWING INTRAUTERINE FETAL DEATH (SPONTANEOUS OR INDUCED)

Contents

1. Aim

To care for women in the event of an intrauterine fetal death in the 2nd or 3rd trimester of pregnancy

2. Introduction

To be followed in the event of the death of the fetus in the late second or third trimester, where induction of labour is required. This may be due to a spontaneous intra-uterine fetal death or following termination of pregnancy for fetal abnormality. Termination may have commenced with feticide using intra-cardiac potassium chloride if taking place beyond 20 weeks gestation.

3. Abbreviations

CTG - Cardiotocograph
GAU - Gynae Assessment Unit
IOL - Induction of labour
IUFD - Intrauterine fetal death
IV - Intravenous
PM - Post Mortem
PV - Per Vaginum

4. Consent

Valid consent must have been obtained. Blood should have been taken for full blood count and Group & Save, as well as for any other investigations indicated

5. Second Trimester

In general, sensitivity to Misoprostol (synthetic prostaglandin E1 analogue) increases with gestation and is further increased by both fetal demise and administration of Mifepristone (progesterone receptor blocker) 36 to 48 hours prior to Misoprostol.

Increasing dosage of Misoprostol increases the likelihood of successful delivery but also increases the incidence of side-effects, which include pyrexia, nausea and vomiting and diarrhoea. The incidence of uterine rupture is low (0.2%), but is increased in the presence of a uterine scar (eg following previous Caesarean section) to around 4% (for care of women with uterine scar, see below page 4 section 7).

5.1 Induction of labour with intra-uterine fetal death (IUFD) between 12* and 24 weeks gestation:

1) Mifepristone 200mg orally. This must be administered in the hospital and supervision for the following 2 hours is required, as allergic reactions have been described.
2) Termination may have commenced with feticide using intra-cardiac potassium chloride if taking place beyond 20 weeks gestation. If feticide with intracardiac potassium chloride is being performed, Mifepristone will be administered following confirmation of fetal asystole.
3) A delay is required to optimise the effect of Mifepristone. This is ideally 36 to 48 hours. During this time the woman may be at home, but should be advised to attend if any bleeding or pain occurs (she should come to wherever the induction is to be carried out – GAU / Ward 209 or Labour ward)
4) Admission as an in-patient (see below). Misoprostol 800mcg PV followed by 400mcg orally 3 hourly until delivery occurs or until 4 oral doses have been administered.

The above regimen would be expected to achieve delivery within 24 hours of commencing Misoprostol in 97% of cases.

In those cases where delivery has not occurred 24 hours after commencing Misoprostol, a further identical course of Misoprostol may be administered on the instructions of the Consultant responsible (named Consultant or Consultant Obstetrician on call).

This regimen is only required if fetal size is consistent with gestational age >12 weeks. For those fetuses with silent miscarriage diagnosed after 12 weeks, but fetal size consistent with demise prior to 12 weeks, surgical evacuation may be more appropriate.

5.2 In-Patient Care

Up to 20 weeks gestation, the most appropriate place for administration of Misoprostol to take place would be on the gynaecology ward. Beyond 20 weeks, administration of Misoprostol should take place on labour ward wherever possible, to allow appropriate analgesia and midwifery care. There may be special circumstances, particularly beyond 18 weeks, where labour ward is the most appropriate place for care at earlier gestations, and this should be decided by the Consultant in charge of care, with the midwife in charge of labour ward/ coordinating midwife for labour ward.

6. Third Trimester

The sensitivity to Misoprostol increases with gestation and with fetal demise. Hence, in the third trimester, progressively lower doses of Misoprostol should be used. Trials utilising mifepristone prior to Misoprostol have demonstrated the shortest Misoprostol-to-delivery times.

Induction of labour following fetal death in the third trimester:

The Misoprostol tablets are 200mcg. The oral dose is reduced by measured dilution with water and administration of the correct volume (e.g. half for 100mcg, a quarter for 50mcg).

a) **24-27 weeks gestation**:
   i. 200mg Mifepristone orally. Observe on the ward for 2 hours for signs of nausea & vomiting – then can go home.
   ii. At 36-48hours admit to Labour ward
      - Misoprostol 200mcg PV, followed by
      - Misoprostol 100mcg orally every 6 hours until delivery, to a maximum of 4 oral doses.
      - On the instructions of the Consultant responsible, the Misoprostol regimen may be recommenced 24 hours after previous dose started if not delivered.

b) **>27 weeks gestation**:
   i. 200mg Mifepristone orally. Observe on the ward for 2 hours for signs of nausea & vomiting- then can go home
   ii. At 36-48hours admit to Labour ward.
      - Misoprostol 200mcg PV, followed by
      - Misoprostol 50mcg orally every 4 hours until delivery, to a maximum of 4 oral doses.
      - On the instructions of the Consultant responsible, the Misoprostol regimen may be recommenced 24 after previous dose started if not delivered. Consider using the dosage as described in section a) above

Maternal observations will be as in 'Care of women in Labour' guideline (L2)

****6.1 To prepare a 50 microgram dose of Misoprostol**

- Disperse a 200 microgram tablet of Misoprostol in a medicine pot in about 15 ml of water. Stir well and make up to 20 ml.
- Stir again to mix the small particles, and draw up 5 ml into an oral syringe (****** *discard remaining 15mls)*.
- At the bedside invert the oral syringe to mix the contents *(5ml)*, and let the woman take about half of the dose.
- Invert the syringe again and let the woman take the remainder of the dose in the syringe.

7. Implications of a Uterine Scar

The presence of a previous Caesarean section scar significantly increases the risk of uterine rupture, but there is no good trial evidence to identify any one best method of induction in this situation. Women with a uterine scar requiring induction of labour for IUFD should therefore be counselled about the risk of uterine rupture and the appropriate regimen for the gestation (as above) to be commenced with caution.

During the labour, close observation for the following signs of possible scar dehiscence should be maintained: Abdominal **pain persisting between contractions** or sudden onset of **breakthrough pain** with regional anaesthesia; vaginal **bleeding**; signs of developing **tachycardia or hypotension** in the woman; sudden **loss of contractions**; **change in fetal lie** or presentation; **disengagement** of the presenting part. Senior medical review should be sought if scar dehiscence is suspected, as resuscitation, laparotomy and hysterotomy or Caesarean section may be required.

8. Multiple Pregnancy

Where two or more fetuses require delivery after they have died, a plan for intrapartum care should be formulated by the Consultant Obstetrician overseeing their delivery. In many cases, the

use of Mifepristone and Misoprostil as detailed above will be appropriate, but doses appropriate to the gestational size of the uterus should be used.

In the event of early gestation twins delivering on the gynae wards if there is a delay contact the on call registrar.

In the event of an early demise of one fetus, this may result in a fetus papyraceous being seen at the time of the birth of the other twin, see appendix Fetal Papyraceous **Appx A**

9. Gender Determination of Miscarried or Terminated Fetus

Determination of the gender of the miscarried or terminated fetus is not always straightforward and parents should be made aware of the difficulties in determining the gender of the fetus and that mistakes can be made when determining the gender of a very immature infant.

It is not always possible to confirm the gender of the fetus below 24 weeks and if this is the case a 2nd opinion must be sought.

If, however, the parents are insistent on gaining an opinion of the gender of their baby, a senior paediatrician should be involved to discuss this further. The midwife responsible for caring for the woman should inform the supervisor on call of the situation.

If a post mortem is to be held, or chromosome analysis to be performed, the parents can be informed that a clearer definition of the infants' gender may be available later.

10. Documentation of Initial Examination of the Baby Following Intra-Uterine Fetal Death

Description of the condition of the baby may help estimate the time of intrauterine death, thus helping clarify the events around this time, particularly if a post-mortem (PM) has been declined. This can be carried out by the midwife/obstetrician or paediatrician if present, and documented in the medical records.

In the event of a stillbirth, describe the baby's condition at birth and document in the medical records. Do not try to estimate the timing of death as other factors may effect the state of deterioration e.g. length of time of ruptured membranes; infection.

Record the babys weight and the weight of the placenta.

Document any unusual features or anomalies. If any are present or suspected ask the paediatric registrar to look at the baby, particularly if a PM has been declined. Consider medical photographs; X-rays; placental examination – with maternal consent.

10.1 Descriptions to be used are:

Superficial separation of skin

- Can the epidermis be easily separated from the dermis by applying oblique stress?
- Is there loss of dermis/epidermis with exposure of a red, shiny moist dermal surface, particularly noticeable over bony prominences?

Fluid filled bullae

Are there fluid filled 'lumps' (between dermis & epidermis)?

Complete disruption of skin

- Has the fetal epidermis lost its integrity completely, exposing underlying structures?

Skin oedema

Is there subcutaneous oedema, if so state where it is present?
Longstanding IUFD may occasionally mimic hydrops fetalis

Amniotic Fluid

- Please clearly document the colour, amount and any odour of the amniotic fluid.

Please ensure the stillbirth checklist has been completed.

Photocopy the Antenatal attendance records within the Maternity Hand Held notes and file in the CTG envelope in the Medical records folder.

11. Retained Placenta

If expulsion of the fetus is not followed by complete delivery of the placenta, additional action may be required. Refer to the guidelines 'Care for Women in Labour' **L2**– see retained placenta.
If at an early gestation (<20 weeks) appropriate action would be the following:-

- Commence an IV infusion of 40units of oxytocin (syntocinon) in 500mls of normal saline at 125ml/hr over 4 hours.
- Give ergometrine 0.5mg IV if bleeding. Consider uterine evacuation - perform within 8 hours of delivery of the fetus, or immediately if bleeding.

12. Caring for Parents Post Delivery

Support is available from the Bereavement Specialist Midwife and the Bereavement team.

Please refer to the Fetal Loss checklists within the Fetal Loss folder for specific details on care post delivery.

Consideration must be given to the parents' wishes as to how long they wish the baby to be with them. In all cases the baby must be kept as cool as possible. This is especially important if post mortem is being considered.

Place of transfer should be according to mother's preference. The woman may wish to go home, stay on Labour ward, be cared for on the postnatal ward 314 or transfer to the gynaecology ward 209.

13. Request for Post Mortem

Obtaining consent should be the responsibility of a member of the team suitably trained in obtaining consent. Parental understanding of the post mortem process should be that their consent, if given, is informed. Good practice recommends that consent for examination is obtained for all fetuses, both pre and post 24 week's gestation.

Post mortems on fetuses and babies may:-

- provide confirmation of clinical diagnoses
- provide a cause or causes of death
- identify structural abnormalities, some of which may be minor but important for genetic counselling
- provide an estimate of time of death (in intra-uterine deaths)
- identify the presence of chronic intra-uterine disease
- give information on complications of treatment and are a form of medical audit

It is important to remember that, even after the most careful and detailed examination, a specific cause of death is not always found. This is especially true of fetuses and stillbirths. Nevertheless this information is still of value in counselling parents.

Before discussion with parents, the professional should ensure they know:-

- why the post mortem is necessary
- where and by whom the examination will be performed
- the possible outcomes and when results might be available

N.B The post mortem request form must be completed FULLY.

It is recommended that the placenta is sent for histology. The appropriate consent form must be completed. If the baby is undergoing a post-mortem the consent form covers both baby & placenta. Only the Notice of Death form to go with the baby to the mortuary. All other appropriate bereavement documentation to be hand delivered the Bereavement Services, RDH.

14. Lactation Suppression

Following termination of pregnancy or intrauterine death after 14 weeks gestation, many women may commence lactation. This may be a distressing experience following pregnancy loss, so the option of lactation suppression must be discussed. Some women may experience lactation at even earlier gestations following pregnancy loss, so consideration must be given to offering suppression any time after 14 weeks gestation. Some women will not wish suppression of lactation and should be offered support to relieve the potential discomfort of engorgement if it should occur.

If pharmacological lactation suppression is given, a single oral dose of Cabergoline 1mg post-delivery is the optimal treatment, with fewer side effects and less rebound lactation.

15. Documentation

Commence appropriate checklists available in the black guideline folder in the resource room on labour ward / ward 209.
All procedures must be documented in the medical records and dated & signed
In the event of losses under 24 weeks gestation the details are to be entered in the top of the LW delivery record book; in the case of losses 24 weeks and over or any neonatal death (any gestation) the details need to be entered in the body of the LW delivery record book. In addition the details need to be entered on the maternity clinical system and included in the maternity hand held records. Please put a 'tear drop' sticker on the alert card with the consent of the parents.

A Datix should be completed for any spontaneous losses after 24 weeks.

16. Monitoring Compliance and Effectiveness

Monitoring requirement	To ensure compliance with guideline
Monitoring method	Retrospective case note review
Report prepared by	Named individual undertaking audit
Monitoring report sent to:	Labour Ward Forum

Frequency of report	3 yearly

17. References

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- Keeling JW. Fetal and Neonatal Pathology. 2nd Ed Chapter 7 pp 183-185
- Cunningham F G et al (1997) Williams Obstetrics 20th Edition p 180
- RCOG Green-top Guideline No.55 Late Intrauterine Fetal Death and Stillbirth October 2010

Appendix A

Definitions of fetal loss

Miscarriage - Those infants born **<24 weeks** gestation known to have died in utero or born with no signs of life at all at birth, are regarded in legal terms as non-viable and therefore no registration or certification is required. However, in terms of the sensitive arrangements for the baby's body, parents' wishes should be respected and arrangements made deemed appropriate by them. Examination by Paediatrician/Obstetrician, should be requested if there is any suspicion of fetal abnormality.

Confirmed IUFD < 24 weeks gestation - Those infants that are **confirmed IUFD by ultrasound scan** at less than 24 weeks gestation but are born after 24 weeks do not require to be registered as stillborn. If there is any doubt the infant must be recorded as a stillbirth.

In the case of **feticide** by intra cardiac potassium chloride before 24 weeks gestation, IUFD will have been confirmed at the time of the feticide so would not be required to be registered as a stillbirth.

Stillborn – Those infants **>24 weeks** gestation known to have died in utero or who show no signs of life at birth, will be registered and certified as stillborn by the Obstetric staff, as is required by law, and the baby's body must subsequently be cremated or buried. The Obstetric staff or a suitably qualified midwife will discuss with parents post mortem examination and seek consent. The stillborn baby should be examined by an Obstetrician for any dysmorphic features and, if indicated, skin biopsy or placental tissue may be taken for karyotype with parental consent, unless a post-mortem examination is taking place

Live born – Those babies, **independent of gestation**, who are born showing signs of life, (e.g. any detectable heart rate, gasping etc.), even if born in very poor condition and resuscitation is not attempted, will be registered as a live birth with the agreement of the parents. A medical certificate of death will subsequently be issued by the attending Obstetrician / Paediatrician. It is then the Obstetrician's / Paediatrician's responsibility to discuss with parents post mortem examination, seek their consent and arrange subsequent counselling.

Appendix B

Fetus Papyraceous

In the event of a multiple pregnancy where one or more babies have died earlier in the pregnancy there may be a fetus papyraceous or recognisable remains of the deceased baby. Parents need to be prepared for this and may wish to be involved in the sensitive management of this situation. This will need to be documented in the woman's obstetric notes.

The fetus papyraceous may be attached to the placenta or membranes.

- If it is possible to easily separate the fetus papyraceous from the placenta it can be managed separately. If fetus papyraceous is within the membranes it can be removed with that portion of membrane and findings documented in the obstetric notes.
- If it is not possible to separate, then the placenta should be sent to histopathology for the pathologist to confirm fetal tissue and arrange sensitive cremation.

Ensure this is documented on the histopathology clinical details form and placental histology consent form. Inform the parents.

A description of the fetus papyraceous needs to be documented in the woman's obstetric notes. If not being sent to histopathology the tissue will need 2 identification labels and be placed in an angel pocket, sensitively wrapped in a blanket before being put into a body bag for transport to the mortuary after the parents have left the ward.

If the fetus papyraceous is managed on the labour ward, ensure funeral choices have been discussed with the parents. Offer the option to the parents to speak to the hospital chaplain and/or the bereavement midwife. Complete the funeral arrangement form.

If the fetal loss is under 24 week gestation the appropriate paperwork needs to be completed and taken to bereavement services along with the green copy of the funeral arrangement form.

Parents should be offered the option of a memento certificate to recognise their baby.

If the parents do not want to be involved at all then the appropriate documentation needs to be completed and the fetus papyraceous will have a hospital arranged cremation.

Documentation Control

Reference Number: IP/11:15/F10	**Version: 4**		**Status:** Final	
Version / Amendment	Version	Date	Author	Reason
	1	June 2004	Dr J Ashworth, Consultant Obstetrician/Gynaecologist	New
	2	May 2011	Dr J Ashworth. Consultant Obstetrician. Sue Rucklidge, Specialist Midwife, Bereavement services	Update and merge of the following guidelines: • Examination of the newborn in the event of an IUFD • Fetal loss – IOL following IUFD • Gender determination of miscarried or terminated fetus
	3	Oct 2011	Dr J Ashworth. Consultant Obstetrician.	Revision of administration of Misoprostol
	4	May 2015	Maternity Guidelines Group/Sue Rucklidge, Bereavement specialist MW	Updated in line with revised IOL guidelines (I1) & Early Pregnancy Loss Guidelines (M1)
Intended Recipients: All staff with responsibility for caring for women in labour				
Training and Dissemination: Cascaded through lead sisters/midwives/doctors / Published on Intranet, NHS mail circulation list / Article in business unit newsletter				
To be read in conjunction with: Management of Early Pregnancy Loss (M1-gynae) / Management of late 2nd trimester complications (T3 Obs / T4 Gynae) / Fetal Loss check lists / Attendance of paediatricians at birth in cases of doubtful viability (V1) / Guidelines for parents who wish to take a dead or dying baby home (D2)				
EIRA (Equality Impact Risk Assessment **n/a**				
Documentation Review Group			Maternity Guideline Group: Miss S Raouf	Date: 3/9/15 Sig: S Raouf
Approving Body and Date Approved			Maternity Development Committee	Date: 12/11/15
Date of Issue				Date:
Review Date and Frequency			Every 3 years	Date:
Contact for Review			Audit Coordinator	
Lead Signature			Chair of Development Committee/ACD: Dr J Ashworth	Date: Sig:
Approving Signature (1)			Clinical Director : Mrs K S Dent	Date: Sig:
Approving Signature (2)			Head of Midwifery / Divisional Nurse Director Mrs J Haslam	Date: 17/11/15 Sig: J Haslam

Development of Guideline:	Bereavement specialist Maternity Guidelines Group
Consultation with:	
Approved By:	Nov 2015 Maternity Nov 2015 Divisional Sign Off (Integrated Care)
Approval date:	Nov 2015
Review Date:	Nov 2018
Key Contact:	Audit Coordinator (Jeanette Steward)