CLINICAL PRACTICE GUIDELINE

Uterine Hyperstimulation (Tachysystole) - management of

SCOPE (Area): Maternity
SCOPE (Staff): Midwifery & Medical

BACKGROUND/RATIONALE

This guideline has been based on the Victorian Standard for Induction of Labour (IOL) – Management of Uterine Hyperstimulation (Tachysystole) Clinical Practice Guideline prepared by the Maternity Newborn Clinical Network which has the objective of providing Maternity Service providers in Victoria with an agreed Standard of Care based on the best currently available evidence.

DESIRED OUTCOME/OBJECTIVE

- Early recognition and management of uterine hyperstimulation (tachysystole) with prompt and appropriate interventions to reduce maternal and perinatal morbidity and mortality

DEFINITIONS

Augmentation: is an intervention that increases the rate of the progress of spontaneous labour.

Cervical ripening: is the process of IOL employed when the cervix is unfavourable in order to facilitate dilation as labour is established.

Induction of labour (IOL): is an intervention designed to artificially initiate cervical ripening and uterine contractions resulting in progressive effacement and dilation of the cervix and birth of the baby.

INDICATIONS

Uterine hyperstimulation (tachysystole) may occur with or without FHR changes and is defined as:

- 4 or more contractions in 10 minutes over a 30 min period or
- Contractions lasting more than 2 minutes in duration or
- Contractions of normal duration occurring within 60 seconds of each other

ISSUES TO CONSIDER

- Early recognition is essential as hyperstimulation of the uterus causes poor uterine placental perfusion leading to a decrease in foetal oxygenation and eventually foetal compromise.
- When assessing for hyperstimulation consideration should be given to both the duration and frequency of the contractions. Contractions normally vary in duration from 30-60 seconds during the first stage of labour, to 90 seconds during the second stage of labour. The foetus needs 60-90 seconds between each contraction to restore normal foetal oxygenation.
- Hyperstimulation is frequently associated with oxytocin infusions, therefore judicious use of oxytocin and continuous cardiotocograph (CTG) is required whenever an oxytocin infusion is being administered (refer CTG/S001 Oxytocin (Syntocinon) – Induction and augmentation of labour and PRO/S001 Oxytocin (Syntocinon) Infusion).
Where hyperstimulation occurs naturally a CTG is also required to ensure early recognition of foetal heart rate (FHR) changes.

A raised uterine baseline pressure also contributes to reduced uteroplacental perfusion. Sustained baseline pressures above 15mmHg lead to FHR changes.

Placental blood flow between mother and foetus ceases during a contraction when the uterine pressure exceeds 30mmHg. Intensity of uterine activity however can only be accurately assessed using an intrauterine pressure sensor.

Adverse effects on the foetus may be avoided by minimising periods of hyperstimulation, and administering treatment in a timely manner rather than waiting until the FHR changes are non-eassuring.

PROCEDURE

Refer to Appendix I Flow Chart – Management of hyperstimulation and PRO/T005 Tocolysis – Preterm labour & Inhibition of Established Labour

RELATED DOCUMENTS

Internal

CPG/I038 Induction of labour with Prostaglandin E2 (PGE2) Vaginal Gel (Prostin)
CPG/S001 Oxytocin (Syntocinon) –Induction and Augmentation of Labour
PRO/S001 Oxytocin (Sytocionon) Infusion
PRO/T005 Tocolysis – Preterm Labour and Inhibition of Established Labour

External


REFERENCES


Management of hyperstimulation defined as:
- more than 4 contractions in 10 minutes or
- duration of contractions > 2 mins or
- contractions within 60 seconds of each other

Normal Foetal Heart rate pattern
Baseline, variability, accelerations
- Remain with the woman until normal uterine activity is achieved
- Notify medical staff and midwife in charge
- Maintain continuous CTG

Suspicious foetal heart rate pattern
including:
- variable decelerations without complicating features or
- isolated prolonged decelerations or
- increased baseline heart rate
- Where associated with oxytocin infusion:
  - decrease infusion to prior rate
  - if normal activity not established within 10-20 minutes
    - half the infusion rate
    - notify medical staff

Foetal heart rate remains suspicious with abnormalities persisting:
- stop the oxytocin infusion

Significant heart rate pattern
including:
- prolonged decelerations or
- complicated variable decelerations or
- late decelerations or
- increase in baseline foetal heart rate or bradycardia
- Where associated with oxytocin infusion:
  - immediately stop infusion
  - advise vaginal examination to assess progress
  - exclude placental abruption
  - emergency management principles
    - position mother in left lateral
    - IV fluids as required
    - consider scalp lactate if available

Where hyperstimulation persists, consider:
1. Terbutaline 250 micrograms IV or SC
   NB: the ampoule comes as 500 mcg/1ml therefore the volume given is 0.5ml, or
2. Sublingual GTN spray (Nitrolingual):
   1 metered spray (400µg) administered under tongue. Repeat after 5 mins if hypertonus sustained.

Expediting birth/emergency caesarean if:
- CTG remains suggestive of foetal compromise
- Scalp lactate > 4.7 mmoL/l