Protocol for the Management Of Uterine Hyperstimulation

Specialty: Maternity
Approval Body: Labour Ward Forum
Approval Date: 15th November 2018
Date for Review: 15th November 2021
Management of Uterine Hyperstimulation

**Definition:**

Hyperstimulation is defined as **either:**

- > 5 contractions in ten minutes over a 30 minute period
  OR
- Contractions lasting more than 2 minutes in duration
  OR
- Contractions of normal duration occurring within 60 seconds of each other.

The tocograph trace may only pick up frequency of contractions accurately in thin women - remember it can also pick up increases in intra-abdominal pressure due to maternal position change and maternal breathing movements. Therefore, the lead professional will need to palpate uterine contractions and record frequency and duration in 10 minutes in order to diagnose hyper-stimulation.

Hyperstimulation may occur with or without fetal heart rate (FHR) changes. Where hyperstimulation occurs naturally, a CTG is also required to ensure early recognition of FHR changes.

If not corrected hyperstimulation, can lead to fetal hypoxia and even uterine rupture (in multips).

**Causes:**

- Over-stimulation or hyper-sensitivity to oxytocin
- Hyper-sensitivity to Prostaglandins
- Hyper-stimulation of uterus due to build up effect of oxytocin by previously administered prostaglandin
- Spontaneous or syntocinon induced labours, particularly in multiparae, it may be a consequence of fetal malpresentation or malposition or cephalopelvic disproportion.
- Frequent, low amplitude, uterine contractions are observed with abruption of the placenta and may be associated with FHR changes and vaginal bleeding.

**In multips:** Watch for signs of impending uterine rupture.

**Management:**

National guidelines recommend that:

‘In the presence of abnormal FHR patterns and uterine hyper contractility not secondary to oxytocin infusion, tocolysis should be considered.

If the FHR trace is normal, oxytocin may be continued until the woman is experiencing 4 or 5 contractions every 10 minutes. Oxytocin should be reduced if contractions occur more frequently than 5 contractions in 10
minutes. If the FHR trace is classified as abnormal, oxytocin should be stopped and a full assessment of the fetal condition undertaken by an obstetrician before oxytocin is recommenced.’

**Tocolysis**

1. Terbutaline 250 μg IV or SC OR Salbutamol 100 μg IV or as aerosol inhalation.
2. Glycerel trinitrate (GTN) administered as 200μg IV bolus or as 400ug as sublingual spray.

NB: The above drugs are not licensed for use for this indication. NICE recommends informed consent should be obtained and documented.

✓ Improvement usually begins within 5 minutes. Side effects are transient maternal tachycardia, flushing of skin and headache and are usually not reported by women.

**Table 1**

<table>
<thead>
<tr>
<th>Hyperstimulation</th>
<th>General measures</th>
<th>Spontaneous - No drugs</th>
<th>Prostin/Propess</th>
<th>Syntocinon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Normal CTG</td>
<td>✓</td>
<td>Observe CTG</td>
<td>Observe CTG</td>
<td>Reduce synto to half rate</td>
</tr>
<tr>
<td>2. Suspicious CTG</td>
<td>✓</td>
<td>Consider tocolysis</td>
<td>Remove propess; consider tocolysis</td>
<td>Stop synto</td>
</tr>
<tr>
<td>3. Pathological CTG</td>
<td>✓</td>
<td>Carefully assess clinical situation; consider tocolysis or delivery</td>
<td>Remove propess; give tocolysis</td>
<td>Stop synto; consider tocolysis</td>
</tr>
</tbody>
</table>

✓ For previous Caesarean section, the threshold for intervention should be lower and a doctor’s assessment should be carried out urgently because of the risk of uterine rupture.

**Table 2 – For Previous Caesarean**

<table>
<thead>
<tr>
<th>Hyperstimulation</th>
<th>General measures</th>
<th>Spontaneous - No drugs</th>
<th>Prostin/Propess</th>
<th>Syntocinon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Normal CTG</td>
<td>✓</td>
<td>Careful clinical assessment</td>
<td>Remove propess; consider tocolysis</td>
<td>Stop synto</td>
</tr>
<tr>
<td>2. Suspicious CTG</td>
<td>✓</td>
<td>Consider tocolysis</td>
<td>Remove propess, tocolysis</td>
<td>Stop synto, consider tocolysis</td>
</tr>
<tr>
<td>3. Pathological CTG</td>
<td>✓</td>
<td>As above and consider delivery</td>
<td>As above and consider delivery</td>
<td>Stop synto, tocolysis</td>
</tr>
</tbody>
</table>
References:

1. Fetal Monitoring in Practice 3rd edition (chapter 10) Gibb and Arulkumaran
UTERINE HYPERSTIMULATION
Management of Hyperstimulation

Defined as:
- More than 5 contractions in 10 minutes or
- Duration of contractions > 2 mins or
- Contractions within 60 seconds of each other

Low amplitude contractions - think abruption

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

Non-reassuring fetal heart rate
- Including:
  - variable decelerations without complicating features or
  - isolated prolonged decelerations or
  - increased baseline heart rate
  - Remain with the woman until normal uterine activity is achieved
  - Continuous CTG
  - Notify Medical staff and midwife in charge
  - Remove Propess

Abnormal heart rate including:
- prolonged decelerations or
- complicated variable decelerations or
- late decelerations or
- increase in baseline heart rate
  - Remain with the woman
  - Continuous CTG
  - Notify Medical staff and Midwife in charge
  - Remove Propess

Where associated with oxytocin infusion:
- decrease infusion to prior rate
- if normal activity not established within 10 – 20 minutes:
  - halve the infusion rate
  - notify medical staff

Where fetal heart rate becomes normal after a period of 30 minutes cautiously maintain/continue oxytocin infusion

Fetal heart rate remains non-reassuring with abnormalities persisting:
- stop the oxytocin infusion

Where hyperstimulation spontaneously occurs instigate emergency management principles:
- Position mother in the left lateral
- IV fluids as required
- Consider FBS

Where associated with oxytocin infusion:
- immediately stop infusion
- Advise vaginal examination to assess progress
- emergency management principles:
  - Position mother in left lateral
  - IV fluids as required
  - Consider FBS

Expediting birth/emergency caesarean if
- CTG remains suggestive of fetal compromise
- Fetal scalp pH abnormal

1. Terbutaline 250 micrograms IV or SC
   NB: the ampoule comes as 500mcg/1ml therefore the volume given is 0.5 ml, or
2. Salbutamol 100 micrograms IV
   NB: make up 1 ampoule of Salbutamol sulphate for injection
   500µg in 10 ml Normal saline (final concentration 50µg/ml). Administer 100µg (2 ml of preparation) over 1-2 minutes. May be repeated after 5 minutes if hypertonus sustained, or
3. Sublingual GTN spray (Nitrolingual)
   1 metered spray (400µg) administered under tongue. Repeat after 5 minutes if hypertonus sustained.
<table>
<thead>
<tr>
<th><strong>Maternity Services</strong></th>
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<tbody>
<tr>
<td><strong>Checklist for Clinical Guidelines being Submitted for Approval</strong></td>
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<table>
<thead>
<tr>
<th><strong>Title of Guideline:</strong></th>
<th>Protocol for the Management of Uterine Hyperstimulation</th>
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</thead>
<tbody>
<tr>
<td><strong>Name(s) of Author:</strong></td>
<td>Labour Ward Forum</td>
</tr>
<tr>
<td><strong>Chair of Group or Committee approving submission:</strong></td>
<td>Labour Ward Forum</td>
</tr>
<tr>
<td><strong>Brief outline giving reasons for document being submitted for ratification:</strong></td>
<td>To update current policy which has expired</td>
</tr>
<tr>
<td><strong>Details of persons included in consultation process:</strong></td>
<td>Consultant Obstetricians / Midwifery Staff</td>
</tr>
<tr>
<td><strong>Name of Pharmacist (mandatory if drugs involved):</strong></td>
<td>N/A</td>
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<td><strong>Issue / Version No:</strong></td>
<td>4</td>
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<td>Protocol for the Management of Uterine Hyperstimulation – Dated June 2017</td>
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<td><strong>Date approved by Group:</strong></td>
<td>15th November 2018</td>
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<tr>
<td><strong>Next Review / Guideline Expiry:</strong></td>
<td>15th November 2021</td>
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<tr>
<td><strong>Please indicate key words you wish to be linked to document</strong></td>
<td>Uterine, hyperstimulation</td>
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