Guideline for the Treatment of Acute Fetal Bradycardia

Acute fetal bradycardia (< 80 bpm for 3 min or more) is a disorder requiring prompt treatment. An emergency Caesarean section under general anaesthetic should only be a last resort.

3, 6, 9, 12 MINUTES GUIDANCE

Fetal Heart Rate <80 bpm for **3 minutes**

- Turn to Left lateral, call for help,
- Stop synthetic oxytocin /administer Terbutaline, IV fluids and consider maternal oxygen
- Await signs of recovery in >90% by **6 minutes** *if there is no pathology*
- 95% should show signs of recovery by **9 minutes**
- Plan delivery if no recovery by **12 minutes**
- Action – immediate delivery by **15 minutes** (instrumental delivery or caesarean section)

Cause of Acute fetal Bradycardia is **acute fetal hypoxia** due to:

- **Hyper stimulation of the uterus** (with oxytocin or prostaglandin) in nearly all cases
- **Placental abruption, Cord prolapse, and Scar rupture** can all give rise to acute hypoxia and should be suspected clinically.

The clinical picture needs to be taken into account and consider the baby's physiological reserve. Hypoxia and acidosis may develop faster with an abnormal trace in patients with scanty thick meconium, IUGR, intrauterine infection with pyrexia and those pre and post term (fetus at risk of jeopardy)

A "crash" Caesarean section is undesirable since it is very stressful for the mother and her partner, the obstetricians, midwives, anesthetists; and results in a general anaesthetic being administered in a hurry, with all its risks. It is better to take the strain off the infant by altering the mother's position and by stopping the uterine contractions.

Terbutaline

There is ample evidence that a bolus injection of a beta-adrenergic drug will temporarily stop the contractions and will restore the fetal heart rate and fetal acid-base status to normal [1-7]. The procedure is as follows:-

1. **Make sure the trace if Fetal**.
   Fetal bradycardia always has no variability, whereas the maternal heart rate trace will show variability. If in doubt compare the maternal pulse rate simultaneously with the fetal heart rate; or turn up the volume of the ultrasound transducer and listen for the characteristic "lub – dup" of the fetal heart.

2. At two minutes – **change the mother's posture to the left lateral**, or from the left lateral to the right lateral. **Stop the oxytocin infusion**. Take her blood pressure. Wait for one minute**.**

3 minute point

If the fetal bradycardia persists despite these measures, go to step 3.

3. "Fast page" the Obstetric Registrar and FY2 on call. Dial 2222; and ask the Switchboard to instruct the Obstetric Registrar and FY 2 to attend the pregnant woman immediately. Remember to state the number of the Ward and the number of the room.

4. From the ward emergency trolley obtain TERBUTALINE and draw up 0.5 mg into a syringe. Terbutaline comes in a 1 ml vial with a concentration of 0.5 mg per ml. The trade name of Terbutaline is "Bricanyl".

5. A Registered Midwife is not allowed to administer Terbutaline without prescription; but it is permissible for the Obstetric Registrar to issue a verbal prescription if he/she is unable to attend immediately and prescribe it as soon as he/she becomes available. Administer the Terbutaline subcutaneously. The Terbutaline will start to act in 1 - 3 minutes.

6 minute point

6. The Obstetric Registrar, or if she/he is otherwise occupied, the maternity coordinator will review the woman. The midwife should administer maternal oxygen 15L min via non rebreathing face mask. The FY2 or trained midwife will insert an intravenous cannula to obtain maternal bloods and administer IV fluids.

Terbutaline will start to wear off in 15 – 20 minutes, although the contractions will take longer to regain their former strength. The Obstetric Registrar or Consultant has to make a decision about the further management of labour. Terbutaline usually has no side effects in the mother, but it may cause maternal tachycardia which will resolve in 15 – 20 minutes.

12 minute point - make plans for delivery

15 minute point – immediate delivery

There are three contraindications to Terbutaline:-

1. Significant antepartum haemorrhage; or suspected placental abruption.
2. Hypotension following a top-up for epidural analgesia.
3. Known heart disease.

Other causes of Fetal Bradycardia should always be considered and corrected during resuscitation

Fetal reasons

- Vagal stimulation
- Local anaesthetic drugs
- Analgesic drugs

Maternal Reasons

- Hypovolemia
- Hypotension

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8. National Institute for Health and Care Excellence Intrapartum Care 2019

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Updated by: **Jacqueline Holmes Midwife October-May 2019**
Ratified: **Clinical Effectiveness Maternity Sub Group**
Review Date: **May 2023**