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WOMEN and CHILDREN'S DIVISION

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KCH Guidelines Chapter 16 (2011)
Vaginal birth after previous Caesarean section

16.1 COUNSELLING ABOUT VBAC

Women should be counselled during the antenatal period about the risks and benefits of planning a vaginal delivery after a previous delivery by caesarean section (VBAC). This discussion can be with a doctor or midwife and the individual management for every woman including the place of birth should be clearly documented in the hand-held maternity notes. If a woman is admitted in labour without evidence that she has been counselled the Obstetric on-call team should see her as soon as possible and an Obstetric SpR should discuss VBAC and document clearly in the notes the discussion that has occurred. The previous notes should be obtained when possible and reviewed.

All women should be given the following information:

1) The department supports and would encourage the choice of VBAC for the vast majority of women. Some women may choose to be delivered by elective caesarean section instead of attempting VBACS. All cases of women who choose elective repeat CS should be discussed with a Consultant. The indication for repeat should be considered to be an example of, and documented as, “maternal choice”.

2) The chances of successful VBAC are approximately as follows:

- 1 previous delivery by LSCS with a non-recurrent indication (e.g. breech, fetal distress, failure to progress in labour with a documented abnormal position) **70-75%** (this is similar to the chances of achieving vaginal delivery in the UK in a first labour)
- 1 previous delivery by LSCS with one or more vaginal delivery prior to this **80%.**
- 1 previous delivery by LSCS with one or more vaginal delivery subsequent to this **93%**
- Success rates are higher at preterm gestations

3) The chief risk of VBAC is scar rupture in labour. The risk of rupture at term is likely to be about 1 in 400. If the scar ruptures rapid delivery of the baby is required. If scar rupture takes place in hospital the outcome for the baby is very likely to be better than if this happens at home. The risk of perinatal mortality or hypoxic ischaemic encephalopathy (HIE) from scar rupture in labour in hospital is likely to be less than 1 in 1,000. The risk of maternal mortality is very low but morbidity risks include laparotomy, transfusion and in rare cases hysterectomy with a total risk of serious morbidity of less than 1 in 1000. Unfortunately the risk of scar dehiscence is not easily predicted although the following are true in the majority of cases;

- Dehiscence is usually preceded by “warning” symptoms that may include fetal heart rate abnormalities, vaginal bleeding and constant abdominal pain between contractions

- Dehiscence prior to labour with a previous transverse lower segment incision is extremely rare
- Dehiscence prior to the active phase of labour (4cm) is uncommon
- Dehiscence is more common in the presence of failure to progress in women who have previously had VBAC, in labour where Syntocinon is used, in labour induced using prostaglandin and in labour when syntocinon is used after prostaglandins
- Dehiscence is less common at preterm gestations

16.2 MANAGEMENT IN LABOUR

The women attempting VBAC should have one-one midwifery care in labour. It is important that doctors and midwives involved in the care of women attempting VBAC are aware that although we recommend certain procedures to women during labour, the final decision about interventions should be made by the woman. The reasons for any recommendations given should be recorded and the risks of alternative forms of management should be explained and documented. If the woman understands and accepts the risks of alternative management plans to the ones recommended then her wishes should be respected and the best level of care offered within the limits she has set. The plan for labour should be clearly documented. If the doctor is concerned that the woman does not fully understand the implications of her decision an urgent consultation with a second and more senior clinician should be arranged.

- **Intravenous cannulation**

An intra-venous cannula is recommended on admission in labour to speed the process of transfer to theatre in the event of emergency delivery. Non-placement of a cannula prior to need will result in a small delay. Women may choose to decline cannulation

- **Sending blood for full blood count and group and save**

If a cannula is inserted then blood should be sent to the laboratory to avoid delay if an emergency procedure is required. In most women a FBC from the third trimester should be available and the result should be checked. In the event of an emergency CS in women who decline cannulation only minimal delay will be incurred by sending a sample to obtain a cross-match prior to CS as the blood group should be known.

- **Continuous electronic fetal monitoring**

The plan for monitoring of the fetal heart in labour should be clearly documented. The 5th CESDI report recommended “attentive intra-partum fetal and maternal surveillance” and this has resulted in an RCOG and NICE recommendation that continuous electronic fetal monitoring should be “offered and recommended”. A recent report (2007) by the RCOG confirms this recommendation. Fetal heart rate abnormalities are described prior to “acute” rupture in 50-70% of cases. The reason for offering and recommending continuous electronic fetal monitoring (CEFM) is to ensure that all heart rate abnormalities are detected immediately. Intermittent auscultation performed every 15minutes could theoretically result in a delay in detection of FHR abnormalities and a delay in the diagnosis of scar rupture. Women may

choose to decline continuous CTG if they feel that this risk is acceptable. Some may opt to have a mixture of CEFM and intermittent auscultation. There is no satisfactory trial of the safety of intermittent auscultation or a mixture of intermittent auscultation and EFM in management of VBAC.
If intermittent auscultation is requested this should be performed according to the guideline with particular care to ensure that this is adhered to. Any abnormality heard on auscultation by the midwife should prompt immediate conversion to electronic fetal monitoring or involvement of a Senior Obstetrician if the woman continues to decline this intervention.

- **Fetal blood sampling**

There are no recommendations that contra-indicate fetal blood sampling in all cases of labour following a previous caesarean section. There are no published studies of the use or not of fetal blood sampling in women undergoing a VBACS. Not performing fetal blood sampling is likely to result in caesarean sections being performed due to CTG abnormalities that do not correspond to either fetal distress or scar rupture. This risk must be balanced against the uncertainties concerning the reliability of FBS to confirm fetal wellbeing in cases of an abnormal CTG in women having a VBAC. All CTG abnormalities must be reviewed carefully within the individual clinical context. Scar dehiscence is more common if there is slow progress or the labour is being induced or augmented. Management of CTG abnormalities must be discussed with the Senior Registrar or Consultant on-call prior performing an FBS.

- **Position during labour and delivery**

Women should be encouraged to adopt an upright position in labour. Continuous electronic fetal monitoring is possible with a woman on a chair or a ball in many cases.

- **Length of first stage of labour**

Scar dehiscence is more common in women with failure to progress. Vaginal examination should be recommended 4hourly throughout labour in the expectation that progress of at least 1cm per/2hours will be observed. Slow progress should be discussed with the on-call Obstetric team.

- **Syntocinon in labour**

Syntocinon can be considered to augment slow progress, to induce labour following amniotomy or to stimulate labour in spontaneous pre-labour rupture of membranes. Syntocinon is not indicated in a woman with a previous caesarean section who is contracting 4 in 10 minutes or more even if progress is poor. In women with a contraction frequency less than 4 in 10 minutes syntocinon augmentation can be considered. Contraction frequency should not exceed 4-5 in 10 minutes.
The use of syntocinon increases the risk of scar dehiscence and this must be discussed with the woman (risk of dehiscence 8 per 1000). The use of Syntocinon must be agreed by the on-call Consultant. Syntocinon can only be considered in women who are prepared to accept continuous electronic fetal monitoring

- **Length of second stage of labour**

The risk of scar dehiscence is greatest in the second stage of labour. Medical staff should be contacted earlier if there is delay in the second stage of labour compared with women in normal labour. A passive second stage of up to one hour followed by an active second stage of up to one hour prior to medical review is recommended.

- **Instrumental delivery**

There is no contra-indication to instrumental delivery being performed in the delivery room. However, the following should be discussed with the Consultant on-call and a trial of instrumental delivery should take place in theatre:

  - Previous caesarean for failed instrumental delivery
  - All occipito-posterior positions
  - Occipito-transverse or occipito-anterior with vertex at ischial spines

- **Third stage of labour**

The third stage of labour should be managed as normal. There is no specific contra-indication to a physiological third stage

- **Water birth & home birth**

Women with previous caesarean delivery and who have opted for VBAC should be recommended to have a hospital birth.
There is no available evidence on the safety of home birth or water birth in women with a uterine scar. Continuous electronic monitoring is obviously not possible at home or for a labour in water. In the event that scar rupture occurs in these cases there would inevitably be delay before delivery, increasing the chance of a very poor maternal or fetal outcome. Delivery in hospital where facilities are available for immediate caesarean section should be recommended, but the decision will depend on the woman's assessment of the risks of delivering at home or in water. Women who are planning VBAC at home should be seen during the antenatal period by their team consultant. Information given to inform the mother's choice should be documented in detail by the midwife and the consultant.

- **Review by Obstetric on-call team**

Routine review is not required of women in spontaneous labour where a plan for VBAC is documented in the notes. Review is required in the following circumstances:

  - Induction of labour
  - Fetal heart abnormality
  - Failure to progress in the first or second stage of labour
  - Request from the midwife in-charge of the case
  - Request from the woman for medical review
  - No information available to the medical staff regarding progress

- **Communication with Obstetric on-call team**

The midwife caring for a woman in labour planning VBAC should ensure that the communication board is updated regarding progress in labour

- **Induction of labour**

Induction of labour with prostaglandins increase the risk of scar dehiscence and the decision should therefore be made by a consultant (either the consultant of the relevant team or the on-call consultant). The management should be clearly documented in the notes. Induction by amniotomy and syntocinon is associated with a lower risk of scar dehiscence. The overall incidence of uterine rupture following induction of labour in published studies varies from 0.2% to 9%. It is likely that the true risk of uterine rupture with IOL lies in the range 1-5% ie is two- or three times the risk for spontaneous labours. The use of prostaglandins increases the risk. One study demonstrated a risk of rupture of 1 in 40 for induction with prostaglandin in women who have had a previous CS. The increased risk of scar rupture must be discussed with the woman and the discussion clearly documented. Only one intravaginal tablet of PGE2 3mg should be planned in the first instance. The use of further doses of PG must be discussed with consultant staff and a clear management plan recorded in the notes.
Ripening of the cervix using a foley catheter may be considered as an alternative to prostaglandins

16.3 VBAC AFTER 2 PREVIOUS CAESAREAN SECTIONS

Unfortunately there is little satisfactory published evidence that allow accurate counselling of women about the risks of VBAC in a woman who has had 2 previous caesarean sections. All women considering a VBAC after 2 or more CS should be seen by a consultant obstetrician or consultant midwife. The chances of vaginal delivery are probably lower than after one caesarean, due to both the inevitable carer bias and the possibility of an underlying recurrent factor increasing the likelihood of caesarean section. The chances of success will probably be greater if a woman has ever delivered vaginally in the past. The chance of successful vaginal delivery is likely to be within the range 60-80%.

The risk of scar dehiscence or rupture **in selected cases** after two previous CS is likely to lie in the range 1/50 – 1/400. Some studies have failed to show a difference in risk compared with women who have had only one previous CS.
Because of these uncertainties many recommend delivery by elective caesarean section at 39 weeks gestation in women who have had two previous CS. The final decision is the woman's. If she understands and accepts the risks and the uncertainties of the data that is available concerning VBAC after two previous CS, then such a decision should be supported. Ripening of the cervix using a Foley catheter or Cook cervical ripening balloon may be considered as an alternative to prostaglandins.
The women should be offered cervical sweeps from 40 weeks and by 41 weeks a plan should be made about the mode of delivery if not in spontaneous labour by 41+3 days. This should be clearly documented in the notes.

16.4 VBAC WITH OTHER UTERINE SURGERY

The following are not a contraindication to a trial of vaginal delivery:

- Documented De Lee incision (the most common incision now used if a lower segment incision is not possible)
- History of a myomectomy where the cavity was not opened

Delivery by LSCS (37-39weeks depending on individual factors) is recommended in the following women:

- Documented classical caesarean section (these are now extremely rare)
- History of a myomectomy where the cavity was opened or surgery was extensive. Every effort should be made to obtain accurate information about the previous surgery during the antenatal period.
- Previous uterine dehiscence.

See separate document for Monitoring Compliance of this guideline

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