Perineal trauma: reducing associated postnatal maternal morbidity

Postnatal perineal trauma is a serious cause of morbidity among women, much of it resulting from a lack of training for midwives in its recognition and detection. Ganeshselvi Premkumar reports on what can be done to reduce tears occurring in the first place, and improve the outcome for those mothers who do suffer injury.

Abstract
Perineal tears affect about 85% of women undergoing normal delivery in the UK. The proper understanding of perineal anatomy by midwives and trainee doctors is important for the correct recognition of the severity of tears.

Measures to minimise perineal tears include teaching pelvic floor exercise during the third trimester, psychological support during labour and good perineal support during the second stage of labour.

To ensure good management, systematic examination of the perineum, vagina, and rectum should be done under good light for all vaginal deliveries. Proper recognition of the degree of tears, selection of suture materials and seeking senior help whenever needed are crucial.

Of those women who prefer elective caesarean section rather than vaginal delivery, 80% do so because of the fear of perineal damages. These adverse outcomes can be minimised by training midwives and trainee doctors with surgical skills workshops in the use of models, audiovisual aids, case scenarios and perineal repair simulation exercises.

Background
Perineal tears are extremely common. This may affect about 85% of women undergoing normal delivery (Kettle et al, 2000). The majority of perineal tears are minor and only affect the perineal or labial skin or the perineal muscles. However, less frequently, the tear may extend deep into the perineum causing damage to the back passage.

These severe forms are thought to occur in approximately 1% to 2% of all vaginal deliveries (Clements, 2001). These women may suffer long-term incontinence of faeces and flatus, which remains an unvoiced social and hygiene problem. This may affect the mother both psychologically and physically. Aside from the potential clinical and social implications, there are important medico-legal issues regarding failure to recognise the severity of tear, failure to seek necessary senior help, use of appropriate suture material, proper follow-up, improper documentation, and informed, adequate counselling of patients.

There is evidence from a study by Sultan et al (1995) that perineal anatomy is poorly understood by midwives and trainee doctors who perform the bulk of deliveries in the UK. In this study, 75 trainee doctors and 75 midwives were included, out of which 41% of trainees and 16% of midwives incorrectly identified a partial or complete tear of the external anal sphincter (EAS) as a second degree tear.

Classification of perineal tears
Inconsistency in classification of tears could allow many injuries to pass unrecognised. The following classification has been provided by the RCOG:

- First degree – injury to perineal or labial skin only

Table 1. Risk factors

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Birth weight over 4kg</td>
<td>Up to 2%</td>
</tr>
<tr>
<td>Persistent occipito-posterior position</td>
<td>Up to 3%</td>
</tr>
<tr>
<td>Nulliparity</td>
<td>Up to 4%</td>
</tr>
<tr>
<td>Induction of labour</td>
<td>Up to 2%</td>
</tr>
<tr>
<td>Epidural analgesia</td>
<td>Up to 2%</td>
</tr>
<tr>
<td>Second stage of labour &gt;1 hour</td>
<td>Up to 4%</td>
</tr>
<tr>
<td>Episiotomy</td>
<td>Up to 3%</td>
</tr>
<tr>
<td>Forceps delivery</td>
<td>Up to 7%</td>
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</tbody>
</table>
Second degree – injury to the perineum involving perineal muscles, but not involving the anal sphincter

Third degree – injury to perineum involving the anal sphincter complex (EAS and internal anal sphincter (IAS)): 3a <50% of EAS thickness torn, 3b >50% of EAS thickness torn, 3c IAS torn

Fourth degree – injury to perineum involving the anal sphincter complex and anal epithelium.

Risk factors
Risk factors were mainly identified by retrospective studies. (Adams et al, 2001). See Table 1 for details.

Incidence of perineal trauma in UK
It is estimated that over 85% of women who have a vaginal birth will sustain some form of perineal trauma. Out of these, 60% to 70% will require it to be sutured (Kettle et al, 2000).

Measures to minimise postnatal morbidity
Precautions such as perineal massaging during third trimester and teaching pelvic floor exercises, stressing their beneficial role in decreasing perineal tears, may help in reducing perineal trauma (Heit et al, 2001). Giving good information and psychological support during labour can avoid unnecessary pushing by women in early labour, which can cause traction neuropathy to pudendal nerves. A systematic review has found that continuous support during labour significantly reduces the rate of instrumental delivery (Kettle, 2002). One systematic review of two poorly-controlled clinical trials found no difference in the extent or rate of perineal trauma when sustained breath holding (Valsalva) was compared with the spontaneous exhalatory method of pushing used during the second stage of labour.

Good perineal support during the second stage is found to be useful in reducing the rate of episiotomy (Aikins Murphy et al, 1998). Using a position for birthing other than lithotomy significantly decreases the incidence of episiotomy (Lydon-Rochelle et al, 1995). Evidence shows that routine episiotomy does not prevent posterior perineal tears. The only disadvantage shown in restrictive use of episiotomy is an increased risk of anterior perineal trauma (Enkin et al, 2000).

Recognition of perineal tears
All women who have had a vaginal delivery should have a systematic examination of the perineum, vagina and rectum. This should be done under good light and with the patient in the lithotomy position to assess the severity of damage prior to suturing. An experienced obstetrician, trained in the recognition and management of perineal tears, should examine all women who have had instrumental delivery or who have extensive injury. Proper explanation to the patient and her cooperation during the examination play a vital role in the identification of tears and reduce the chance of missing them (Adams et al, 2001).

Significance of recognition
Failure to correctly identify perineal anatomy, suboptimal operating conditions and contaminated wound will contribute to a poor outcome. Unidentified perineal injuries can lead to traumatic postpartum haemorrhage, vulvovaginal haematoma and shock, faecal and flatus incontinence, wound infection, sepsis or rectovaginal fistula in later life (Keighley et al, 2000). In the UK, repair procedure, the liberal use of local infiltration with lignocaine and pudendal block is important. The careful methodological examination of vagina, perineum and cervix under good light is mandatory to recognise the degree of tear.

If the tear is first degree, it is important to watch carefully for bleeding. If there is no evidence of active bleeding, there is no need to suture. If the tear is long and deep through the perineum, it should be ensured that there is no third or fourth degree tear by placing a gloved finger in the anus, gently lifting the finger to identify the sphincter and then feeling for its tone or tightness.

If the sphincter is not injured, sterile gloves should be changed before proceeding with the repair. If a midwife is uncertain or there is evidence of sphincter injury, help from a senior midwife or experienced obstetrician should be requested.

Repair of third and fourth degree tears
A repair carried out in an operating theatre under regional or general anaesthesia is likely to produce the best outcome. There is no reliable evidence to show that the overlap method is superior to the end-to-end approximation method (Adams et al, 2001). Many women require repeated operations for these types of tears, because of initial inadequate recognition and repair. Primary repair results in the restoration of full continence in only 66% of recognised anal sphincter injuries, and secondary repair led to full recovery in 49% of cases (Schofield et al, 1999).

Suture material
The use of absorbable synthetic material (polyglycolic acid and polylactic acid) for the repair of perineal trauma is associated with less perineal pain, analgesic use, dehiscence and resutting when compared to catgut. More recently, a new rapidly absorbable material called Vicryl Rapide, that has been evaluated and found to be superior, is used.

Management
Repair of first and second degree tears
The practice of providing emotional support, encouragement and adequate information to the mother is useful. Regarding the pain-relief used during the repair procedure, the liberal use of local infiltration with lignocaine and pudendal block is important. The careful methodological examination of vagina, perineum and cervix under good light is mandatory to recognise the degree of tear.

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pain control. The use of broad-spectrum antibiotics, including metronidazole intraoperatively and in the postoperative period, is associated with less postoperative infection. In addition, the use of laxatives following the procedure corresponds with less postoperative wound dehiscence. However, at present, there are no randomised controlled studies to prove this (Adams, 2001).

Prophylactic rectal diclofenac provides effective analgesia after perineal repair and its effect appears to be maintained into the second and third postpartum days (Searles et al, 1998).

It is essential to document clearly the anatomical structures involved, method of repair, suture materials used and ensure that all instruments and swabs are accounted for. The women need to be fully informed about the nature of injury and the importance of subsequent follow-up. In modern obstetrics, the occurrence of third and fourth degree tears is considered as substandard care and an important area of litigation (Adams et al, 2001).

Follow-up
Ill women who have had a third or fourth degree tear repaired should be followed up for six to 12 months post-delivery, ideally in a dedicated perineal clinic with access to anal manometry and endoanal ultrasound (Adams et al, 2001).

Conclusion
The long-term morbidity with perineal trauma in the UK is approximately 23% to 42%, and a woman will continue to have pain and discomfort for ten to 12 days post-partum. Of affected women, 8% to 10% have long-term pain (between three and 18 months following delivery), 23% will experience superficial dyspareunia at three months and 3% to 10% will report faecal incontinence (Kettle et al, 2000). In a recent survey, 31% of all women said they would prefer elective caesarean section (CS) to vaginal delivery and 80% of those would choose CS because of fear of perineal damage (Clements, 2001).

To encourage women to consider vaginal delivery more positively, adverse outcomes need to be minimised. Women undergoing episiotomy demonstrated a prolonged second stage of labour, higher rate of episiotomy and increased use of oxytocin. However, epidural analgesia showed no evidence of a detrimental effect on the integrity of the birth canal in spontaneous vaginal delivery (Bodner-Adler et al, 2002).

A third of all women said they would choose elective caesarean and 80% of these said this was because of fear of perineal damage. To encourage women to consider vaginal delivery more positively, adverse outcomes need to be minimised. Clearly, where an injury occurs, but is not detected, the incidence of anal incontinence may approach 100% (Ferando, 2002). Variation in outcome may be due to different methods and materials being used or to deficiencies in skills and training. Different approaches to teaching these skills should be evaluated. Training may be improved through the implementation of surgical skills workshops with the use of models, audiovisual aids for midwives and trainee obstetricians, case scenarios and perineal repair simulation exercises. Hopefully, this will contribute to a reduction in morbidity and litigation associated with perineal injuries (Kettle et al, 2000).

References