TRIAL OF LABOUR AFTER A PREVIOUS CAESAREAN SECTION DELIVERY: A PRIVATE HOSPITAL EXPERIENCE

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Key words: Previous caesarean section, trial of labour

Abstract

Background: In an attempt to reduce the rising trend of caesarean delivery worldwide, obstetrician now offer trial of labour more readily to women who have had a caesarean section. Although trial of labour is usually successful and safe, it may occasionally be associated with severe morbidity and even mortality. In this report, we audited all cases of trial of labour after a previous caesarean delivery in our hospital.

Method: A three year (2000 – 2003) prospective study of all cases of trial of labour after one previous caesarean section at the Havana Specialist Hospital Lagos.

Results: Of the 1481 deliveries in our hospital during the period, 179 (11.9%) had previously been delivered through caesarean section. While 29.3% (51) of the women with previous caesarean delivery had elective caesarean section, 70.7% (123) were allowed trial of labour. Eighty five (69.1%) women had successful trial of labour. The failure rate was thus 30.9%. Cephalopelvic disproportion and slow progress of labour was the main cause of failure. Majority (58.8%) of the patients that achieved vaginal delivery needed assistance in the form of vacuum delivery (40.0%), vacuum delivery & episiotomy (30.0%), episiotomy alone (28.0%) and forceps deliver (2.0%). When fetal and maternal outcome were compared between emergency and elective caesarean section, it was only in Apgar score at 1 minute was there significant difference. One (0.8%) uterine rupture occurred because of delayed consent and she was not among the eight patients that had oxytocin augmentation of labour.

Conclusion: In countries where caesarean section are not readily acceptable, flexibility within the frame work of good obstetric practice is the desired goal. However labour in women with scarred uterus must be conducted in institution that have facilities for emergency obstetric services. This study has shown that trial of labour in patient with one previous caesarean section is not only feasible but practicable and oxytocin augmentation is safe when judiciously used.

Mots clés : Opération césarienne précédente, épreuve de travail

Résumé

Fond: Afin d'essayer de réduire la tendance montante de césarien dans le monde entier, l’obstétricien offrent maintenant l'épreuve du travail plus aisément aux femmes qui ont eu une opération césarienne. Bien que l'épreuve du travail soit habituellement réussie et sûre, elle peut de temps en temps être associée à la morbidity grave et à la mortalité égale. Dans ce rapport, nous avons apuré tous les cas d'épreuve de travail après un accouchement césarien précédent dans notre hôpital.

Méthode : Une étude éventuelle de trois ans (2000 - 2003) de tous les cas d'épreuve de travail après une opération césarienne précédente à l'hôpital spécialiste Havana à Lagos.

Résultats : Des 1481 accouchements à notre hôpital pendant la période, 179 (11,9 %) avaient été auparavant accouchés à travers l'opération césarienne.
Introduction

In an attempt to reduce the rising trend of caesarean delivery worldwide, obstetrician now offer trial of labour more readily to women who have had a caesarean section.\textsuperscript{1, 3} Several studies both in developed and developing countries have shown that it is not only feasible but safe.\textsuperscript{1 - 6} The reported success rate ranges from 60 – 80%.\textsuperscript{3 - 7} This new trend is a welcome development more especially in our environment where there is aversion for caesarean delivery informed by the desire to achieve vaginal delivery.\textsuperscript{7, 8}

Although trial of labour is usually successful and relatively safe, it may occasional be associated with severe maternal morbidity and even mortality.\textsuperscript{3, 6}

While several studies in developed countries have prospectively documented their outcome studies from our environment are retrospective with their associated draw backs.\textsuperscript{2, 3, 5, 6, 9}

We have prospectively studied trial of labour after a previous caesarean section in a Nigerian private specialist hospital.

Patients and Methods

All women undergoing trial of vaginal delivery at the Havana Specialist Hospital (HSH), Lagos Nigeria between July 2000 and June 2003 were prospectively studied. HSH is a multidisciplinary proprietary hospital located in the cosmopolitan city of Lagos, Nigeria. Four consultant Obstetricians and two Paediatricians supervise its obstetric and neonatology units. The obstetricians conduct all high-risk deliveries and over 95% of all other deliveries.

Protocol for trial of labour

a. Qualification

1. Single transverse lower segment caesarean section for a non-recurrent cause performed in our hospital or by an obstetrician and confirmed by a medical report from him showing indication for surgery, type of incision and postoperative condition.

2. Singleton fetus in cephalic presentation with estimated fetal weight by ultrasound after 36weeks less than 4kg.

3. Pelvis adjudged as clinically adequate by the attending obstetrician. Radiological pelvimetry is not mandatory.

4. No contraindication to vaginal delivery.

5. Reactive fetus on non stress test.

6. Informed consent by the patient.

7. Spontaneous labour.

b. Methodology

When in spontaneous labour

1. Review history and labour plan by the managing consultant.

2. Examination to confirm lie, fetal well-being and ability to withstand labour, approximate fetal size, adequacy of the pelvic cavity and stage of labour.

3. Intravenous access is secured. Blood is collected for packed cell volume check and grouping and cross matching of two pints of blood.

4. Inform theatre, anaesthetic and paediatrician about the patient.

5. Nil by mouth until after delivered.

6. Augmentation in labour at the discretion of the attending obstetrician.

7. Labour managed using WHO partograph

8. Complication managed according to departmental protocol of managing such obstetric complication.

A trial is deemed successful if it ends in a vaginal delivery.
Information on maternal socio-biological characteristics, labour, maternal and neonatal outcome were collected. The collected data were coded and entered into an IBM compatible PC using EPI info version 6 for analysis.

Results

During the period of study, one thousand four hundred and eighty one patients delivered at the HSH. Among them were one hundred and seventy four patients (11.7%) who had previously been delivered by caesarean section. Fifty-one (29.3%) had elective caesarean section. The indications for caesarean section in this category of patient are shown in Table 1. Of the remaining one hundred and twenty three, eighty-five (69.1%) had successful trial of labour leading to uneventful vaginal deliveries. The failure rate was thus 30.9% (38). The main cause of failed trial of labour in these patients was cephalopelvic disproportion and slow progress of labour (Table 2). Eight patients had augmentation in labour; all except one had successful trial of labour.

Among the patients that had successful trial, fifty (58.8%) needed assistance of the second stage of labour in form of vacuum delivery (40.0%), vacuum with episiotomy (30.0%), episiotomy alone (28%) and forceps delivery (2%). Table 3 shows the comparison between maternal and fetal outcome in the patients that had elective and emergency caesarean section after failed trial of labour. There were no statistically significant differences between the two groups, except in Apgar score at one minute. One (0.8%) uterine rupture occurred in a patient in whom there was a delay of about 2 hours waiting for the husband to give consent for surgery since the patient declined, claiming she had no authority to do so. The rupture was an incomplete rupture. Mother and baby survived. No perinatal or maternal death occurred.

Table 1: Indication for elective repeat caesarean section

<table>
<thead>
<tr>
<th>Indication</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than one previous caesarean section</td>
<td>26(45.1)</td>
</tr>
<tr>
<td>Primary surgery for a recurrent indication</td>
<td>12(23.5)</td>
</tr>
<tr>
<td>Fetal macrosomia</td>
<td>2(3.9)</td>
</tr>
<tr>
<td>Twin pregnancy</td>
<td>1(2.0)</td>
</tr>
<tr>
<td>Placenta praevia</td>
<td>2(3.9)</td>
</tr>
<tr>
<td>Intruterine growth retardation</td>
<td>3(5.9)</td>
</tr>
<tr>
<td>Non reactive fetus (NST)</td>
<td>1(2.0)</td>
</tr>
<tr>
<td>Bad obstetric history</td>
<td>2(3.9)</td>
</tr>
<tr>
<td>IVF pregnancy</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2: indication for emergency caesarean section in failed trial of labour

<table>
<thead>
<tr>
<th>Indication</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cephalopelvic disproportion</td>
<td>20(52.6)</td>
</tr>
<tr>
<td>Slow progress of labour</td>
<td>9(23.7)</td>
</tr>
<tr>
<td>Fetal distress</td>
<td>5(13.2)</td>
</tr>
<tr>
<td>Cervical dystocia</td>
<td>2(5.3)</td>
</tr>
<tr>
<td>Antepartum haemorrhage</td>
<td>2(5.3)</td>
</tr>
<tr>
<td>Imminent uterine rupture</td>
<td>1(2.6)</td>
</tr>
</tbody>
</table>

Table 3: Comparison of maternal and fetal outcome in elective and emergency caesarean section cases

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Emergency (%)</th>
<th>Elective (%)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged hospital stay</td>
<td>3(5.3)</td>
<td>5(9.8)</td>
<td>0.5</td>
</tr>
<tr>
<td>Labour and postpartum complication</td>
<td>7(18.4)</td>
<td>3(5.9)</td>
<td>0.06</td>
</tr>
<tr>
<td>Neonatal mortality</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Apgar score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 1 minutes less than 7</td>
<td>9(23.7)</td>
<td>3(5.3)</td>
<td>0.03</td>
</tr>
<tr>
<td>At 5 minutes less than 7</td>
<td>3(7.9)</td>
<td>1(2.0)</td>
<td>0.31</td>
</tr>
<tr>
<td>Blood transfusion</td>
<td>2(5.3)</td>
<td>3(5.9)</td>
<td>0.7</td>
</tr>
<tr>
<td>Wound infection</td>
<td>7(18.4)</td>
<td>4(7.8)</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Discussion

This report like several other reports in Nigeria and elsewhere have shown that trial of labour in a patient with previous caesarean delivery is not only safe but feasible.1-6 The vaginal birth after caesarean section (VBAC) rate of 69.1%, though marginally higher than rates from Benin and Enugu,3,6 is within the reported range of 60-80% worldwide.2,4,5 The marginally higher rate in our centre might be due to very tight inclusion criteria. An earlier study in our center (1983-1987) identified a lower VBAC rate of 48.9% among women allowed a trial of labour.10 The observed difference (69.1% Vs 48.9%) reflects the role of a number of factors. The criteria used in this present study were stricter with closer observation; which sieves those likely to have failed trial of labour. Equally, the communication with the attending obstetrician who performed the primary CS also

NST = Non stress test; IVF = In-vitro fertilisation
influenced the patient approach of the obstetric team. Also the first review was limited to the first delivery after primary CS. The current study was prospective and included all deliveries subsequent to primary CS at which confidence in allowing a trial of labour would have increased. It also cannot be ruled out that the fact of an ongoing study may have had a positive enhancing effect on the results. The case of uterine rupture though due to delay in gaining consent from the patient and her relations, goes to show that scarred uterus may occasionally be associated with adverse maternal and fetal outcome especially in poorly selected and poorly supervised patient in labour. Fortunately, scar dehiscence or rupture in labour is not as catastrophic as spontaneous or traumatic rupture of the uterus. However with greater care and caution the maternal and fetal mortality associated with this condition may be reduced to barest minimum.

An equally significant finding in this report is the finding of no increased morbidity and mortality when comparison was made between the elective and emergency caesarean section. Though Apgar score at one minute was significantly lower in the emergency cases compared to the elective cases; however the difference was not maintained at five minute assessment. Finding of poorer Apgar score at one minute in the emergency cases apart from the obvious reason of five of the nine cases with poor Apgar score were operated because of fetal distress, the insult of labour may have contributed to the poor score. With active resuscitation after delivery these babies recovered and thus the no significant difference at 5 minutes. This underscores the importance of alerting the neonatology team once we embark on trial of labour.

The use of oxytocin for augmentation of labour in women with a previous caesarean section has remained controversial because of speculation that there might be an increased risk of uterine dehiscence. This view is not universally held nor is it strongly supported by available data. A number of series have been reported in which oxytocin were used for augmentation with no suggestion of increased hazard. In our series, of the eight patients that had oxytocin augmentation of labour, seven (87.5%) had successful trial of labour with no case of uterine rupture. This finding further confirmed the safety of oxytocin augmentation in previous scar when judiciously used. However caution should be taken in augmenting labour in women with a previous low segment caesarean section who arrest in the active phase of labour. Augmentation should only be undertaken where an immediate response in case of emergency events requiring caesarean section can be instituted.

Exploration of the lower uterine segment following successful trial of labour after a previous caesarean section is not a routine practice in our centre and the wisdom of this approach have been confirmed. Manual exploration of a scarred uterus immediately after a vaginal delivery is often inconclusive. It is difficult to be sure whether or not the thin, soft, lower segment is intact. There is always a risk of introducing infection by the manual exploration, or of converting a dehiscence into a larger rupture. A reasonable compromise consist of increased vigilance in the hour after delivery of the placenta, reserving internal palpation of the lower segment for women with signs of abnormal bleeding.

Every case of previous caesarean section should be individualized taking into account the patients past obstetric performance, indication for the surgery, type of caesarean section or uterine incision, the state in labour at which primary caesarean section was performed, previous successful vaginal deliveries after caesarean birth, birth weights of previous babies, presence of postoperative wound infection, fetal macrosomia and the patients desire and consent. In Nigeria where caesarean deliveries are not readily accepted by the populace, flexibility within the frame work of good obstetric practice is the desired goal, but labour in patients with scarred uterus must be conducted in institutions that have facilities and personnel for emergency obstetric services including blood banking.

References

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