Can we reduce repeat caesarean deliveries?

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ABSTRACT

Objectives: Our purpose was to describe the indications of repeat caesarean delivery and to determine modifiable practice patterns that might lead to fewer repeat caesarean deliveries.

Methods: Hospital records of all women with previous caesarean section, who were delivered between 15th of April 1994 and 31st of December 1994, at the Princess Badeea Teaching Hospital in North Jordan, were reviewed. Three groups were identified (1) elective repeat caesarean (2) vaginal birth after caesarean (3) failed vaginal birth after caesarean.

Results: In this study there were 388 patients. Of these, 208 had a repeat caesarean delivery for the following reasons: failed vaginal birth after caesarean (39, 10.1%), and repeat elective caesarean section (169, 43.5%). The remaining (180, 46.4%) patients had a vaginal birth after caesarean.

Conclusion: Our vaginal birth rate after previous one caesarean was 82.2%. If this rate can be maintained in patients with previous 2 or 3 caesarean deliveries, we can reduce our repeat caesarean rates by at least (5.4%) by allowing more patients with previous 2 and even 3 caesarean deliveries to have a trial of labor under appropriate conditions and also proper management of dystocia.

Keywords: Repeat caesarean section, previous caesarean section, trial of labor.


Caesarean section is one of the most frequently performed surgical procedures. Although the caesarean delivery rate has remained stable in recent years, nearly one in eleven deliveries has been performed abdominally.1,2 Recently we noticed an increase in the repeat caesarean section rates and any reduction in the number of repeat caesarean deliveries would be expected to lower the over all caesarean rates. It has been estimated that if 80% of patients with a previous caesarean delivery attempted a trial of labor, an over all success rate of 75% would lead to a 21% reduction in the caesarean delivery rate.3

The purpose of this study was to describe various indications of repeat cesarean delivery and to determine modifiable practice patterns that might lead to fewer repeat caesarean deliveries.

Methods. We conducted a retrospective review of the hospital records of all women with previous caesarean deliveries who had either a repeat caesarean or a vaginal birth after caesarean (VBAC) delivery between 15th of April 1994 and 31st of December 1994, at the Princess Badeea Teaching Hospital (PBTH) in North Jordan.

We could not find the registry book for the first three and half months of the year 1994 for patients.

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admitted to our hospital, so they were not included in this study.

This hospital is the teaching and a referral hospital with a patient population cared for by the University and Ministry of Health Specialists, Obstetrics and Gynecology Residents, and Perinatologists.

Caesarean delivery indications for all repeat caesarean deliveries were recorded. Only patients of previous one caesarean section were allowed a trial of labor providing that there is no contraindication for vaginal delivery. Oxytocin was used with great caution and reluctant in patients who had dysfunctional labor or for those for whom induction of labor was appropriate.

All patients with previous >2 caesareans were delivered by elective caesarean section. Three groups of patients were identified on the basis of this review: (1) patients with successful VBAC, (2) patients with failed VBAC requiring repeat caesarean, (3) patients who had an elective repeat caesarean without a trial of labor.

Demographic and significant aspects of the medical history were recorded.

Medical and antepartum obstetric complications were identified, including chronic hypertension, diabetes, pre-eclampsia and preterm labor and premature rupture of membranes.

**Results.** During the time interval between 15th of April 1994 and 31st of December 1994 there was a total of 6977 deliveries at the PBTH. The total number of caesarean sections was 642, the caesarean delivery rate was 9.2%. Repeat caesarean section was performed in 208 cases, the rate of repeat caesarean to the total number of caesarean deliveries was 32.4%.

Three hundred and eighty eight patients had a diagnosis of previous caesarean and they form the basis of this report.

Of the 388 patients, 73.4% (285/388) had only one previous caesarean delivery, 10.1% (39/388) had two previous caesarean deliveries, 7.7% (30/388) had three previous caesarean deliveries and 8.8% (34/388) had >3 caesarean deliveries. The overall VBAC attempt rate was 56.5% (219/388) with a success rate of 46.4% (180/388).

In this study, one hundred and eighty of the 219 who had a trial of labor had a successful vaginal delivery, a success rate of 82.2%, which is comparable to other studies. Of those who had VBAC, most (171, 95%) delivered unassisted. The remainder had assisted vaginal deliveries with low forceps or vacuum extraction.

One hundred and sixty nine patients of the total number of patients included in this study had an elective repeat caesarean section (43.5%) for various indications shown in Table 1. The most common indication of repeat elective caesarean section was previous 2 caesareans (23.1%), previous >3 caesareans (20.1%), previous 3 caesareans (17.7%), breech with previous one caesarean (10.7%), and pre-eclampsia with previous caesarean section (7.7%) of cases.

Within the failed VBAC group, dystocia was the most common reason for a repeat caesarean delivery to be performed (23/39, 59%) followed by fetal distress, (13/39, 33.3%) and placental abruption (3/39, 7.7%).

**Discussion.** It is important to realize that not all patients who undergo elective repeat caesarean delivery are candidates for a trial of labor. Gregory et al found that 16% of all repeat caesarean deliveries were performed because of contraindication to labor. In our unit, we only allow trial of labor if there was only one previous caesarean delivery because of the fear of uterine rupture, many studies showed that vaginal birth is possible after 2 and 3 caesarean deliveries if trial of labor was monitored properly with success rate of about 80%, which is similar to those patients who had one previous caesarean delivery, so this fear could be unfounded.

If we can adopt this policy, which needs great courage and conviction to all specialists involved in this unit, we may be able to reduce our repeat caesarean rate by about 13%. Although this drop is not statistically significant but is welcomed.

The most frequent indication for repeat caesarean deliveries was in patients who had failure to progress (59%). At our unit we need to look at this group again and to find out how many really had dystocia and this can be achieved if the specialists are more involved in the labor room and not to leave such diagnosis to the senior resident in training alone.

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**Table 1 - Primary indications for elective caesarean delivery.**

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placenta previa</td>
<td>6</td>
<td>3.6</td>
</tr>
<tr>
<td>Breech presentation</td>
<td>18</td>
<td>10.7</td>
</tr>
<tr>
<td>Previous classical caesarean section</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Pre-eclampsia</td>
<td>13</td>
<td>7.7</td>
</tr>
<tr>
<td>Previous 2 caesarean sections</td>
<td>39</td>
<td>23.1</td>
</tr>
<tr>
<td>Previous 3 caesarean sections</td>
<td>30</td>
<td>20.1</td>
</tr>
<tr>
<td>&gt;3 or more caesarean sections</td>
<td>34</td>
<td>17.7</td>
</tr>
<tr>
<td>twins</td>
<td>8</td>
<td>4.7</td>
</tr>
<tr>
<td>Macrosomia (estimated fetal weight ≥4500 gm)</td>
<td>8</td>
<td>4.7</td>
</tr>
<tr>
<td>Previous dehiscence</td>
<td>3</td>
<td>1.8</td>
</tr>
<tr>
<td>Malpresentation</td>
<td>9</td>
<td>5.2</td>
</tr>
</tbody>
</table>

TOTAL 169 100
Still there is a fear from using oxytocin for induction and augmentation of labor. Our induction rate in those who had trial of labor and previous one caesarean delivery was 3% and augmentation rate at 6.5%, which is low and we result in more patients having caesarean delivery for the wrong indication. In 1995, Adair et al.\cite{10} concluded that induction in women with previous low transverse caesarean section results in an acceptable rate of vaginal delivery and appears safe for both mother and fetus.

We may conclude that reducing repeat caesarean deliveries and subsequently the overall caesarean section rate is possible if we can change our practice by allowing patients with 2 and 3 caesarean sections to have a trial of labor in our local population. We can start by allowing patients with previous two deliveries first. Also, the rate can be reduced further if the seniors are more involved in the diagnosis and management of dystocia and the use of oxytocin when indicated.

References