

Can we reduce repeat caesarean delivery at the Princess Badeea Teaching Hospital in North Jordan?

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Summary

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

Method: Hospital records of all women with previous caesarean sections who delivered between 15 April, 1994 - 31 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.

Conclusions: Our vaginal birth rate after one previous caesarean section was 82.2%. If this rate can be maintained in patients with 2 or 3 previous caesarean deliveries, we can reduce repeat caesarean rates by at least 14% by allowing more patients with 2 or even 3 previous caesarean deliveries to have a trial of labour under appropriate conditions and also proper management of dystocia.

Key words: Repeat caesarean section; Previous caesarean section; Trial of labour.

Introduction

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 11 deliveries has been performed abdominally [1, 2].

Recently we noticed an increase in the repeat caesarean section rates. Any reduction in the number of repeat caesarean deliveries would be expected to lower the overall caesarean rates significantly. It has been estimated that if 80% of patients with a previous caesarean delivery attempted a trial of labour, an overall 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 caesarean delivery and to determine modifiable practice patterns that might lead to fewer repeat caesarean deliveries.

Materials and 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 15 April, 1994 - 31 December, 1994 at the Princess Badeea Teaching Hospital (PBTH) in North Jordan. This hospital is a teaching and 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 with one previous caesarean section were allowed a trial of labour providing that there was no contraindication for vaginal delivery. Oxytocin was used with great caution and reluctantly in patients who had dysfunctional labour or for those for whom induction of labour was appropriate.

All patients with ≥ 2 previous 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 a repeat caesarean, 3) patients who had an elective repeat caesarean without a trial of labour.

Demographic and significant aspects of the medical history were recorded. Medical and antepartum obstetric complications were identified, including chronic hypertension, diabetes mellitus, pre-eclampsia and preterm labour, and premature rupture of membranes.

Results

During the time interval between 15 April, 1994 and 31 December, 1994 there was a total of 6,977 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 caesareans to the total number of caesarean deliveries was 32.4%.

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

Of the 388 patients, 56.5% (219/388) 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, 180 of the 219 who had a trial of labour had a successful vaginal delivery, a success rate of 82.2%, which is comparable to other studies [4, 5] as shown in Table 1. Of those who had VBAC, most (171,95%) deli-

Table 1. — Distribution of patient groups (n = 388)

	n	%
Successful VBAC	180	46.4
Failed VBAC	39	10.1
Elective Caesarean Section	169	43.5

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Table 2. — Primary indications for elective caesarean delivery

Diagnosis	n	%
Placenta previa	6	3.6
Breech presentation	18	10.7
Previous classical caesarean section	1	0.6
Preeclampsia	13	7.7
2 previous caesarean sections	39	23.1
3 previous caesarean sections	30	20.1
>3 caesarean sections	34	17.7
Twins	8	4.7
Macrosomia (estimated fetal weight \geq 4500 gm)	8	4.7
Previous dehiscence	3	1.8
Malpresentation	9	5.3
Total	169	100

Table 3. — Indications for caesarean section in patients who had failed VBAC (n = 39)

	n	%
Dystocia	23	59
Fetal distress	13	33.3
Placental abruption	3	7.7
Total	39	100

vered 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 2. The most common indications for repeat elective caesarean section were 2 previous caesareans (23.1%), 3 previous caesareans (20.1%), > 3 previous caesareans (17.7%), breech with one previous caesarean (10.7%), and preeclampsia with a 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%) as shown in Table 3.

Discussion

It is important to understand that not all patients who undergo elective repeat caesarean delivery are candidates for a trial of labour. Gregory *et al.* [6] found that 16% of all repeat caesarean deliveries were performed because of contraindications to labour. In our unit, we allow trial labour if there has been only one previous caesarean delivery because of the fear of uterine rupture. However, many studies have shown that vaginal birth is possible after 2 or 3 caesarean deliveries if trial of labour is monitored properly [7, 8] with a success rate of about 80% which is similar to those patients who had one previous caesarean delivery. Thus, fear of uterine rupture could be unfounded.

If we can adopt this policy, which requires great courage and conviction by all specialists involved, we may be able to reduce our repeat caesarean rate by about 14%.

The most frequent indication for repeat caesarean deliveries was in patients who had failed VBAC due to dystocia (59%). In our unit we need to look at this group again to find out how many really had dystocia. This can be achieved if the specialists are more involved in the labour room and do not leave such diagnoses to the senior resident in training alone. Still, there is the fear of using oxytocin for induction and augmentation of labour. Our induction rate in those who had trial of labour and one previous caesarean delivery was 3% and with an augmentation rate of 6.5% which is low and at the end more patients have caesarean delivery for the wrong indications. In 1995 Adair *et al.* [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 or 3 caesarean sections to have a trial of labour. We can start with patients with two previous deliveries. Also, the rate can be further reduced if the senior resident are more involved in the diagnosis and management of dystocia and the use of oxytocin when indicated.

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