

VAGINAL BIRTH AFTER CAESAREAN SECTION(VBAC) A TWO YEAR COMPARATIVE REVIEW OF OUTCOME AT ABUBAKAR TAFAWA BALEWA UNIVERSITY TEACHING HOSPITAL BAUCHI NIGERIA

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ABSTRACT

Vaginal birth after caesarean section compared to a repeat caesarean has lower complication rate for both the parturient and her infant. Ruptured uterus is a major complication of Vbac and uterine rupture in a spontaneous labour after one prior lower transverse segment caesarean section is about 0.4%. The risk decreases by 50% after the first Vbac. The overall success rate of Vbac is between 52-80%, however in the West African sub region the success rate is almost 60%. A retrospective study was carried out between 1st January 2011 to 31st December 2012, on patients who were allowed Vbac within this period. Data was obtained from the delivery register, patients' case files and theatre register. Maternal complications evaluated include ruptured uterus, postpartum haemorrhage and perineal tears. Fetal outcomes were evaluated based on the APGAR scores at birth. Data on Age, Parity and Booking status of women in the study were also obtained. Analysis was done using SPSS version 16.0 software package 2007. χ^2 test was used to test for significance and the results presented in form of tables. There were 12,775 deliveries during the study period and 204 women had Vbac giving a Vbac rate of 1.59%. The overall success rate of VBAC for the two years of the study was 45.1%. The success rate for Vbac in 2011 was 35.2% and for 2012 was 56.3% ($\chi^2=9.108$, $P=0.003$). Vbac was more successful among booked patients (52.5%) compared to 34.5% in the unbooked patients ($\chi^2=6449$, $P=0.011$). The rate of Vbac is low in our centre compared to reports elsewhere. Patients were better managed in 2012 leading to significantly improved success rate.

Keywords: Pregnancy, caesarean section, vaginal birth, parturient, infant

INTRODUCTION

Vaginal birth after caesarean section refers to any woman who experienced a prior caesarean birth who plans to deliver vaginally rather than by elective caesarean section.^[1] It is a procedure of great importance as it provides an alternative to a repeat caesarean section. About 90 years ago Edwin Craigin put forward his dictum of once a caesarean always a caesarean^[2] which sealed the obstetrics fate of women who had a caesarean section. In his time most caesarean sections were indicated by cephalopelvic disproportion and contracted pelvis, and the type of caesarean section was classical with its associated significant risk of uterine rupture in subsequent pregnancy and his dictum was thus justified.

In contemporary obstetrics however indications for caesarean section have widened significantly and a large proportion of caesarean sections are performed for non recurrent indications. This led to a swing in the pendulum with a significant proportion of women who previously had caesarean section being allowed to try vaginal delivery. A large number of such women achieved successful vaginal delivery.

Vaginal birth after caesarean section compared to a repeat caesarean has lower complication rate for both the parturient and her infant.^[3] The rates of maternal mortality associated with caesarean sections can vary from 4 to 6 times the rate found in association with vaginal delivery.^[4] Puerperal endometritis can be up to ten times more common after cs than after vaginal delivery.^[4,5] Another study has shown greater morbidity with repeat elective cs compared to VBAC.

^[6] Neonatal mortality rates are higher among infants delivered through cs compared to those delivered vaginally^[7] and repeat elective cs is associated with a delay in mother to baby bonding,^[8] longer hospital stay and costs much more. In our sub region women place high cultural premium on the ability to deliver vaginally, hence are less willing to consent to a repeat cs.^[9] With all these benefits and problems at the background it is compelling to the obstetrician to offer selected women with previous cs the benefit of VBAC.

Ruptured uterus is a dreaded complications of VBAC and uterine rupture in a spontaneous labour after one prior lower transverse segment cs is 0.4%.^[3,10] The risk decreases by 50% after the first VBAC.^[11]

The overall success rate of VBAC is between 52%^[12] to more than 80%,^[13] but in the West African sub region the success rate is closer to 60%.^[14,15]

The aim of the study is to determine the rate VBAC in our Centre and to compare foetomaternal outcomes of VBACs of patients who were managed in 2011 and those managed in 2012 when there was improved staffing of our delivery suite and the use of partograph enforced and also to compare the outcomes in booked and un-booked patients.

METHODS

The study was retrospective carried out between 1st of January 2011 to 31st of December 2012. In the first part of the study two Midwives, a house officer and a Medical officer with and occasionally a Consultant manage patients in labour and Partographs were not used in managing patient in labour. During the second part of the study the use of Partograph was enforced and there was improvement in number of personnel managing patients in labour who include three Midwives per shift, two house officers, two Registrars and a Consultant.

The study involved all patients who were allowed VBAC within the study period. Data was obtained from the delivery register, the patients' case files and the theatre register. Maternal complications evaluated include included Ruptured uterus, Postpartumhaemorrhage (Bleeding per vaginum of 500 mls or more following delivery of the baby) and Perineal tears. Fetal outcomes were evaluated based on the APGAR scores at birth and babies delivered as fresh stillbirths. Data on Age, Parity and Booking status of women in the study were also obtained. Analysis of the data was done using SPSS version 16.0 software package 2007. χ^2 test was used to test for significance and the results were presented in form of tables. Ethical clearance was obtained from the Hospital Ethics committee.

RESULTS

There were 204 women who had VBAC and there were 12,775 deliveries during the study period giving a VBAC rate of 1.59%. The overall success rate of VBAC for the two years of the study was 45.1%. The success rate for VBAC in 2011 was 35.2% and for 2012 was 56.3% ($\chi^2=9.108$, $P=0.003$). VBAC was more successful among booked patients (52.5%) compared to 34.5% in the unbooked patients ($\chi^2=6449$, $P=0.011$).

Table 1. Patients' Demographic characteristics

<i>Age of Patients</i>	<i>Frequency</i>	<i>Percentage</i>
15-19	24	11.8
20-24	48	23.5
25-29	52	25.5
30-34	36	17.6
35 and above	44	21.6
Total	200	100
<i>Parity of Patients</i>	<i>Frequency</i>	<i>Percentage</i>
1	64	31.4
2	50	24.5
3	34	16.7
4	18	8.8
5	38	18.6
Total	204	100
<i>Booking Status</i>	<i>Frequency</i>	<i>Percentage</i>
Booked	120	41.2
Unbooked	84	58.8
Total	204	100
<i>Booking status and success of VBAC</i>		
Booked patients		63
Unbooked		29
$X^2=6.449, P=0.011$		

Table 2. Foetal outcome

Babies delivered with Apgar score less than 6		
2011	49	$X^2=4.271, P=0.039$
2012	30	
Babies delivered still birth		
2011	19	$X^2=6.081, P=0.014$
2012	6	
Overall foetal outcome (Apgar score less than 6 and Fresh Stillbirths.)		
2011	68	$X^2=13.186, P=0.001$
2012	36	

Table 3. Maternal outcome

Ruptured uterus		
2011	13	$X^2=2.946, P=0.086$
2012	5	
Postpartum haemorrhage		
2011	11	$X^2=0.206, P=0.650$
2012	8	
Perineal laceration		
2011	18	$X^2=4.154, P=0.042$
2012	7	
Patients ruptured uterus plus Patients with postpartum Haemorrhage plus patients perineal tears		
2011	42	$X^2=7.832, 0.005$
2012	20	

DISCUSSION

The rate of VBAC in this review was 1.59% of all deliveries within the study period. This is much lower than 16.54% reported from a study from the Sultanate of Oman.^[16] In that study however the number of deliveries is much lower than in our study and this may explain the lower rate in our study compared to that study. The overall success rate of VBAC in this study was 45.10%. This is lower than the success rate of VBAC from other studies.^[12,13] It is also lower than the West African regional average success rate of 60%.^[14,15] It is also much lower than the rate from another study from the middle the east^[16] and lower than reports from developed countries.^[17,18,19] There is a significant difference in success rates between patients managed in 2011 and those managed in 2012 (35.2% versus 56.3%, $P=0.003$).

The success of VBAC is higher in those patients that booked for antenatal care in their index pregnancies compared to those that did not book for antenatal in their index pregnancies table 1 (52.50% vs 34.50%, $P=0.011$). This signifies the importance of antenatal care as it concerns pregnancy outcomes. In our centre patients with previous cs are assessed for or against VBAC based on their previous obstetrics experiences, findings at examination, Ultrasound findings and results of clinical pelvimetry. Patients who were not booked usually present when labour has already started and there is little chance to fully evaluate them for suitability to undergo VBAC and as a result many end up with a repeat emergency case for one indication or the other.

VBAC is associated with some complications which can be maternal or foetal. Uterine rupture is one of the complications evaluated in the study. The rate of uterine rupture in this study was 8.82% of all VBACs. This is higher than what was reported elsewhere.^[20,21] There was no statistically significant difference between the uterine rupture rate of 2011 and that for 2012 table 3 (12.04% vs 5.21%, $P=0.086$). There was no significant difference in the rate of

Postpartum haemorrhage between women managed in 2011 and those managed in 2012 table 3 (P=0.0650). More women sustained perineal lacerations in 2011 compared to 2012 table 5 (P=0.042). Overall there were more complications in women managed in 2011 compared to those managed in 2012 and the difference is statistically significant table 3 (38.90% vs 20.83%, P=0.005).

There were more babies delivered with low Apgar score in 2011 compared with those delivered in 2012 through VBAC table 3 (45.40% vs 31.25%, P=0.039). Fresh stillbirths follow a similar pattern table 2 (17.59% vs 6.25%, P=0.014). Overall more infants sustained complications either low Apgar score or fresh stillbirth in 2011 compared to 2012 table 2 (63% vs 37.50%, P=0.000). The complication rates for the two years were very high compared to findings from other studies.^[3,16,22,23]

The improved success rate and better foetal and maternal outcomes observed in the study during the year 2012 can attributed to increased staffing of our Delivery suite as more midwives and resident doctors were employed to care for our parturient under Consultant supervision. This was not possible before as there were few midwives and resident doctors and hardly any Consultant to supervise labour care. Partographic labour monitoring was also enforced around the time which enabled early detection of problematic labour and early interventions. To sustain these improvements in outcome all measures must be taken to further improve staffing of our labour ward, maintain partographic labour monitoring and provide instruments of foetal monitoring such as the cardiotocograph.

CONCLUSION

The rate of VBAC is low in our centre compared to reports elsewhere; the overall success rate was also low compared to reports from other centres. The success rate significantly improved in 2012. Outcomes were better for patients managed in 2012.

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