

Labour outcomes with defibulation at delivery in immigrant Somali and Sudanese women with type III female genital mutilation/cutting

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Summary

INTRODUCTION: There is a scarcity of studies on labour outcomes with defibulation. This study assessed the outcomes of labour with defibulation at delivery in women with type III female genital mutilation/cutting (FGM/C) compared to labour without defibulation.

METHODS: We identified and reviewed the records of all Somali and Sudanese women who delivered at King Abdulaziz University Hospital, Jeddah, Saudi Arabia, between January 2012 and December 2016. Labour outcomes of women with type III FGM/C who delivered vaginally with defibulation at delivery were compared to the outcomes of women without type III FGM/C who delivered vaginally without defibulation. Data extracted from the records included demographics, registration status, and labour outcomes.

RESULTS: During the study period, 1086 Somali and Sudanese women delivered at our institution, with 42% delivering by caesarean section. Among the 631 women with vaginal delivery, 27% had type III FGM/C and delivered with defibulation while 73% did not have type III FGM/C and delivered without defibulation. Demographic and clinical factors were similar between the two groups who delivered vaginally. The outcomes of labour with defibulation at delivery in women with type III FGM/C were not different from women without defibulation, except in regards to instrumental delivery and maternal blood loss. There were also no statistically significant differences between the two groups in neonatal outcomes.

CONCLUSIONS: Defibulation at delivery is an effective minor surgical procedure that should be in the armamentarium of the healthcare providers managing women with type III FGM/C.

Keywords: labour, outcomes, defibulation at delivery

Introduction

Female genital mutilation/cutting (FGM/C) is defined by the World Health Organization (WHO) as all non-medical procedures that involve partial or total removal of the external female genitalia, or other injury to the external female genital organs [1]. The WHO classifies FGM/C into four types: type I, excision of the prepuce with or without excision of a portion of the clitoris; type II, excision of any portion of the labia minora and/or clitoris with or without excision of some part or all of the labia majora; type III, narrowing of the vaginal orifice (infibulation) with or without excision of any portion of the clitoris and apposition of the labia minora or labia majora; type IV, all other harmful procedures to the female genitalia for non-medical purposes, such as pricking, piercing, incising, scraping and cauterising the genital area [1]. It is practiced most commonly in the western, eastern, and north-eastern regions of Africa, as well as in a few Middle Eastern countries such as Iraq and Yemen [2]. FGM/C is also practiced among migrants from these areas, which highlights the global scale of this issue [3]. Although the exact number of girls and women who are subjected to the practice of FGM/C worldwide is unknown, the United Nations International Children's Emergency Fund estimates that there are around 200 million girls and women alive today who have undergone FGM/C [2]. There are no known health benefits to the traditional practice of FGM/C. On the contrary, it results in well-documented short- and long-term detrimental health sequelae [4, 5]. In particular, although the precise size of the increased risk is uncertain, systematic reviews have documented that women who have undergone FGM/C are significantly more likely than women without FGM/C to suffer adverse obstetric outcomes, such as prolonged labour, difficult labour, haemorrhage and blood loss [5, 6]. One of the potential obstetrical challenges related to this practice is the need for defibulation to allow a safe vaginal delivery. Defibulation is a minor surgical procedure to re-open the vaginal introitus by dividing the scar tissue sealing the vaginal introitus in type III FGM/C [7].

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It can be performed before pregnancy, antenatally, in the first stage of labour, and at the time of vaginal delivery [7]. There is little familiarity with this procedure in developed countries and caregivers may not be prepared to treat women with infibulation, especially in emergency situations, which in turn may lead to rupture of the infibulation scar [8, 9]. The WHO guideline on the management of complications from FGM/C recommends undertaking defibulation in the antepartum or intrapartum period [1]. However, the guideline is based on a systematic review of only four case-control studies [10]. Another systematic review described the defibulation results of eight studies, which reported more than 30 different obstetric outcomes [11]. Yet, this review also called for additional research on the benefits and harms of defibulation for women who live with type III FGM/C, in particular from developing countries where FGM/C is commonly practiced, so that health care providers can draw firmer conclusions on the effectiveness of this care intervention. To this end, the objective of our study was to assess the outcomes of labour with defibulation at delivery in a non-inferiority comparison of women with type III FGM/C compared with women without defibulation. Given that defibulation prevents obstruction of labour and rupture of the scar, we hypothesised that there would be no statistically significant differences in the outcomes between the two groups of women.

Materials and methods

We conducted a retrospective, chart review study with ethical approval from the Unit of Biomedical Ethics at the Faculty of Medicine at King Abdulaziz University (Number 423-16). We identified and reviewed the medical records of all Somali and Sudanese women who delivered at King Abdulaziz University Hospital, Jeddah, Saudi Arabia between January 2012 and December 2016. We selected immigrant Somali and Sudanese women because the prevalence of FGM/C, including type III, is particularly high in these countries [2] and they make up a substantial proportion of the immigrant female patients at our institution. We identified Somali and Sudanese women who were admitted for delivery from the labour ward records. From the records, we extracted data on demographic and clinical characteristics, medical and obstetric history, as well as pregnancy outcomes, including labour characteristics, delivery outcomes, and postpartum complications (e.g., blood loss at delivery, which is measured visually). The hospital discharge notes gave information on neonatal outcomes, including gestational age at delivery, birth weight, and major morbidities. If a woman had more than one delivery during the study period, we used data only from her first delivery.

The outcomes of the labour of women who delivered vaginally with defibulation at delivery were compared to the outcomes of women who delivered vaginally without defibulation (variables stated above and shown in tables 2 and 3 below). The women with and without defibulation were from the same nationalities where FGM/C is near universal [2], and they had deliveries in the same period. Therefore, although women's FGM/C status was only

recorded when it was type III, we expect that the other women had type I or II FGM/C.

King Abdulaziz University Hospital is a free tertiary referral government teaching hospital. Saudi and all eligible immigrant pregnant women from different socio-economic backgrounds are routinely followed in the antenatal clinics (registered). Immigrant non-eligible pregnant women who are not registered during pregnancy may present to the emergency department in established labour without any prior antenatal care (unregistered). The hospital's policy is to accept and admit them. As a routine, the presence of type III FGM/C is documented during the initial vaginal examination when women present in labour. The examination is followed by counselling and approval of the procedure to be adopted. Concerning defibulation, vaginal delivery for women with type III FGM/C is achieved by performing defibulation at the time of crowning of the fetal head (video 1) followed by medio-lateral episiotomy if required, as described elsewhere [12]. Vaginal delivery for women without FGM/C or with other types of FGM/C is achieved without defibulation. Medio-lateral episiotomy is done when necessary. Delivery is conducted by in-house staff, usually residents and senior residents under the care of the attending on call. Intrapartum continuous fetal heart monitoring is performed for almost all women. Intramuscular, intravenous, or epidural analgesia is given for pain relief during labour.

Data were analysed using the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL), version 23. We calculated frequencies and means \pm standard deviation (SD) and analysed differences between groups using Student's t-test for continuous variables and the chi-square test for categorical variables. A p-value <0.05 was considered statistically significant.

Results

During the study period, 1086 Somali and Sudanese women delivered at our hospital, with 455 (42%) delivering by caesarean section. The caesarean sections were done for obstetric indications, with none done for the indication of FGM/C. Among the 631 women with vaginal delivery, 27% had type III FGM/C and delivered with defibulation while 73% did not have type III FGM/C and delivered without defibulation. There was no spontaneous rupture of the infibulation scar before the intended defibulation at the time of crowning of the fetal head. Defibulation was successfully and easily performed with no woman experiencing any intraoperative complication. As shown in table 1, demographic and clinical factors were similar between the women who delivered vaginally with and without defibulation. Table 2 shows that there were no statistically significant differences between the two groups in the onset of labour, duration of the stage of labour, meconium-stained liquor, episiotomy, vaginal tears, the need for blood transfusion, or maternal duration of hospital stay. However, there was a statistically significant difference between the groups with regard to instrumental delivery and blood loss. There were more instrumental deliveries (9.1 vs 1.2%, $p < 0.001$) and greater blood loss (293.6 vs 248.7 ml,

Video 1: Defibulation at delivery. You will find the video file online at <https://smw.ch/article/doi/smw.2020.20326>

$p = 0.040$) in women who delivered without defibulation. There were no statistically significant differences between the two treatment groups in neonatal outcomes (table 3).

Discussion

In this comparison study, we hypothesised that the outcomes of labour with defibulation at delivery in women with type III FGM/C would be no different from women without defibulation. With the exception of two outcomes, instrumental delivery and maternal blood loss, the results

were consistent with our hypothesis. Furthermore, no woman experienced any intraoperative complication. This suggests that defibulation at delivery is a safe procedure and that it reduces the risk of obstetric complications for women with type III FGM/C, as suggested in the systematic review by Berg et al. [11] The fact that the Somali and Sudanese women who delivered with defibulation had significantly fewer instrumental deliveries and less blood loss than the women who delivered without defibulation suggests that defibulation created a more favorable labour. It is possible that this care intervention redressed obstetric

Table 1: Description and comparison of the demographic characteristics and medical history of the defibulated patients and the control group.

Variable	Defibulation (n = 170)	No defibulation (n = 461)	p-value
Age (years)	30.5 ± 7.1	29.7 ± 6.5	0.186
Body mass index (kg/m ²)	27.8 ± 5.3	27.8 ± 5.0	0.879
Nationality			0.166
– Somali	107 (62.9%)	317 (68.8%)	
– Sudanese	63 (37.1%)	144 (31.2%)	
Booking status			0.602
– Registered	26 (15.3%)	63 (13.7%)	
– Unregistered	144 (84.7%)	398 (86.3%)	
Gravidity	3.5 ± 2.5	3.4 ± 2.4	0.414
Parity	2.2 ± 2.3	2.1 ± 2.2	0.825
Gestational age (weeks)	39.0 ± 2.5	39.1 ± 2.6	0.590
Hepatitis	3 (1.8)	11 (2.4)	0.769

Data are presented as mean ± standard deviation or n (%). A p-value <0.05 is considered statistically significant.

Table 2: Description and comparison of maternal and labour outcomes of the defibulated patients and the control group.

Variable	Defibulation (n = 170)	No Defibulation (n = 461)	p-value
Onset of labour			0.233
– Spontaneous	166 (97.6%)	456 (98.9%)	
– Induced	4 (2.4%)	5 (1.1%)	
Instrumental delivery			<0.001
– Ventouse	2 (1.2%)	42 (9.1%)	
– Forceps	0	4 (0.9%)	
First stage (min)	185.9 ± 165.0	183.73 ± 82.8	0.772
Second stage (min)	14.2 ± 7.8	14.7 ± 7.8	0.470
Third stage (min)	6.3 ± 2.2	6.1 ± 2.1	0.532
Meconium-stained liquor	35 (20.6%)	84 (18.2%)	0.500
Episiotomy	68 (40%)	166 (36%)	0.357
Vaginal tears			
– First degree	54 (31.8%)	125 (27.1%)	0.250
– Second degree	20 (11.8%)	39 (8.55)	0.209
– Third degree	4 (2.4%)	5 (1.1%)	0.260
– Fourth degree	0	0	0.250
Blood loss (ml)	248.7 ± 157.1	293.6 ± 268.5	0.040
Blood transfusion	9 (5.3%)	41 (8.9%)	0.142
Hospital stay (days)	2.1 ± 1.7	2.4 ± 4.7	0.373

Data are presented as mean ± standard deviation or n (%). A p-value <0.05 is considered statistically significant.

Table 3: Description and comparison of the neonatal outcomes of the defibulated patients and the control group.

Variable	Defibulation (n = 170)	No defibulation (n = 461)	p-value
Apgar score <7 at 5 minutes	3 (1.8)	18 (3.9)	0.218
Need for resuscitation	10 (6.0)	49 (10.6)	0.063
Respiratory distress syndrome	1 (0.6)	8 (1.7)	0.455
Neonatal intensive care unit admission	13 (7.6)	50 (10.8)	0.224
Hypoxic ischaemic encephalopathy	0	9 (2)	0.122
Birth weight (g)	3200.9 ± 582.7	3190.6 ± 592.7	0.855

Data are presented as mean ± standard deviation or n (%). A p-value <0.05 is considered statistically significant.

problems caused by inelastic scar tissue from FGM/C, which is the most plausible mechanistic pathway of the increased obstetric harms in women with type III FGM/C.

In the developing world, prolonged second stage of labour, extensive perineal tears, damage to the adjacent structures like the urethra, the bladder, and the rectum, vesicovaginal and rectovaginal fistulae, birth asphyxia, and stillbirth can follow vaginal delivery without defibulation [7]. In contrast, studies from the developed world have shown that a high standard of antenatal care, defibulation, skilled birth attendants, and professional surveillance of labour can minimise the adverse obstetrics outcomes [13, 14].

In 2016, the WHO strongly recommended defibulation for the prevention of obstetric complications in women with type III FGM/C [1]. The WHO evidence base used for the recommendation was a systemic review and meta-analysis on defibulation published in 2017 [8]. It included four case-controlled studies: two from the United Kingdom [15, 16] and our previous two studies [12, 17]. The two studies from the United Kingdom found better obstetric outcomes among women who underwent defibulation during labour, compared with women who remained infibulated. The policy in our hospital, as well as the prevailing standard in Saudi Arabia, is to do defibulation in labour [18]. Intrapartum defibulation is also the “usual practice” in countries where FGM/C is prevalent [7]. Importantly, it is the preferred option by women because most women find that it facilitates an easier birth and it avoids being cut twice, antenatally and in labour for episiotomy [19].

We acknowledge that our study comes with strengths and limitations. Strengths include the large sample size and similarity between the two groups. However, the study is retrospective, and while the clinical records included whether the women had type III FGM/C, we do not know the percentages of women who had other types of FGM/C who subsequently had no defibulation. Likely, most if not all women had type I or II FGM/C and in the unlikely event they did not, that would only strengthen our results concerning favourable effects of defibulation in women with type III FGM/C. The ideal control group is women with type III FGM/C who deliver without defibulation. In our opinion, given the known benefits of defibulation, it would be unethical to allow women with type III FGM/C to deliver vaginally without defibulation. Such groups of women do not exist in our practice. While outside the scope of our study, we note that the unexpected high rate of caesarean sections deserves attention and should be examined in future studies.

Conclusion

Defibulation at delivery is an effective minor surgical procedure that should be in the armamentarium of the healthcare providers managing women with type III FGM/C.

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Potential competing interests

The authors report no conflict of interest.

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