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Early secondary repair of labial tears, 1st and 2nd degree perineal lacerations and mediolateral episiotomies in a midwifery-led clinic. A retrospective evaluation of cases based on photo documentation

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ABSTRACT

Objectives: To examine whether early secondary repair of labial tears, 1st and 2nd degree perineal lacerations and episiotomies provided an anatomically acceptable result.
Study design: A retrospective analysis of 126 women undergoing an early secondary repair of birth lacerations not involving the sphincter complex within 21 days postpartum. Patients were included from 1 January 2014 to 11 August 2017 at Aarhus University Hospital, Denmark. Photo documentation of the wound was available just before the early secondary repair and at the follow-up visit after the repair. Photos were evaluated by two trained Urogynaecological Consultants.
Main outcome measures: Whether the anatomic result of the early secondary repair was acceptable based on photo documentation.
Results: Early secondary repair was performed by a specialised team of midwives in 94.4% and by doctors in 5.6% of the cases. In all, 72.2% were 2nd degree perineal lacerations. The most common indications for early secondary repair were wound dehiscence (55.3%) and suboptimal primary repair (34.1%). At the follow-up clinical examination seven days after the early secondary repair, the result was considered anatomically acceptable in 67.5% of the cases, not optimal in 22.2% and not possible to evaluate in 10.3% of the cases. In 7.9% of the cases, wound infection was suspected after the early secondary repair.
Conclusions: Based on photo documentation, early secondary repair of birth lacerations not involving the sphincter complex provides an anatomically acceptable result in the majority of cases without risk of serious complications.

Introduction

Trauma to the perineum and vulva is the most common complication in childbirth [1,2], and approximately 85% of all primiparous women sustain lacerations in the labia, perineum or vagina [3,4]. The classification of perineal trauma depends on the tissues involved [5,6]. It is recommended that both lacerations involving muscles [6] and labial tears are sutured, the latter for cosmetic reasons and to prevent long-term sequelae [7–9].

Perineal lacerations can have both short-term and long-term sequelae [4] such as urinary and faecal incontinence [3,10], dyspareunia [11] and pain [10], possibly influencing breastfeeding, bonding, everyday life and sexual activity [3,10]. Infection of the wound can cause dehiscence of the suturing [12,13], and wound dehiscence may occur in up to 13.5% of all sutured lacerations [14]. Until now, treatment of perineal wound dehiscence has not been a priority, neither in clinical practice nor in research [12]. Early secondary repair of 3rd and 4th degree perineal lacerations was safe to perform according to Arona et al. [15] and Soerensen et al. [16], but only a few small studies have investigated early secondary repair of lacerations not involving the sphincter complex [12,17,18]. Monberg & Hammen found that early secondary repair of dehisced episiotomy wounds had a positive effect on dyspareunia and reduced the number of subsequent hospital and home visits [18]. Likewise, Christensen et al. observed that early secondary repair of dehiscence following infection in sutured episiotomies could have a positive effect on healing time compared to spontaneous

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healing [17]. In a recent pilot study, Dudley et al. compared early secondary repair of dehisced 2nd degree perineal lacerations and episiotomies to expectant management [9]. Their study revealed faster healing and a higher satisfaction rate among women randomised to early secondary repair, but it also identified feasibility problems including organisational planning and treatment preferences among clinicians and women [9]. Clinical practice regarding dehiscence is based upon tradition rather than evidence [9,12], and further research on the topic is needed [12].

The Danish Health Authority recommends that all women are invited to a check-up two to three days after birth; this visit should also include inspection of perineal tears and wound healing [19]. At Aarhus University Hospital in Denmark this recommendation has led to the establishment of a postnatal midwifery-led clinic with early secondary repair of birth lacerations as an available treatment option. The World Health Organization (WHO) has appointed this clinic as an example of good practice [20]; however, this practice has not been systematically evaluated. Thus, the primary aim of this study was to examine whether the anatomical result of early secondary repair of labial tears, 1st and 2nd degree perineal lacerations and episiotomies was acceptable based on photo documentation. The secondary aim was to evaluate safety of the treatment.

Methods

This study was a retrospective analysis of a case series from Aarhus University Hospital, Denmark, including women undergoing early secondary repair of birth lacerations from 1 January 2014 to 11 August 2017. Aarhus University Hospital is located in the second largest Danish city and includes about 500,000 citizens in its uptake area for delivery services. Annually, more than 4800 children are born at the hospital. The maternity ward employs more than 130 midwives, and it provides specialised care to patients from the entire Central Denmark Region (approximately 1.3 million inhabitants) in case of severe prematurity, diabetes and specific maternal and fetal conditions and complications. A postnatal midwifery-led clinic was established in 2013 at Aarhus University Hospital to perform screening of the newborn, talk about the birth and examine any sutured tear. When the midwives started to systematically evaluate all sutured lacerations, a guideline for early secondary repair was implemented. Early secondary repair of birth lacerations is offered within 21 days after birth if there is significant wound dehiscence or sub-optimal primary repair and if functional or cosmetic sequelae are suspected.

During the study period, the following practice, which is also the current practice, was adopted. When a woman visits the postnatal midwifery-led clinic and a dehiscence of the primary suturing or sub-optimal primary repair is suspected, she is referred to an examination by a midwife from a specialised resuturing team. The team consists of eight midwives and two Urogynaecological Consultants. The midwives are specialised in diagnosis of complicated wound healing and early secondary repair within the first 21 days postpartum. The early secondary repair is often performed by a midwife, but in case of infection, complicated lacerations, or resuturing beyond eight days postpartum, the early secondary repair is carried out under regional anaesthesia by a doctor. Usually, early secondary repair is performed on the delivery suite using infiltration anaesthesia and/or pudendal block (mepivacain 1% with adrenaline 5 μg/ml), frequently supplemented with 50% dinitrogenoxid and/or lidocaine spray (10 mg/dose). The repair is performed with polyglactin 910, 2–0 sutures for muscular repair and polyglactin 910, 3–0 fast absorbable sutures for repair of skin and labial tissue. Early secondary repair is not in itself an indication for routine prophylactic antibiotics. However, some of the women with specific indications, such as obvious signs of infection, receive antibiotics.

Early secondary repair is only performed after the patient has been thoroughly counselled about the treatment and has given her consent. The women are also asked to consent documentation of the results by the use of photos before, immediately after and at the clinical check-up approximately one week after the early secondary repair. Photos are taken with the use of a smartphone or a tablet and stored together with a description of the primary suturing, of the early secondary repair and of the examination at the check-up. For this study, an anonymised version of these data was used. Inclusion criteria were available photos before the early secondary repair and from the clinical check-up. Exclusion criteria were lack of photo documentation at any time point. Moreover, cases with 3rd and 4th degree perineal lacerations were excluded. All photos were systematically evaluated by two Urogynaecological Consultants, and the primary outcome of the study was to evaluate whether early secondary repair gave and anatomically acceptable result. Indication for early secondary repair and signs of infection before and after the early secondary repair were assessed. Redness of the skin, oedema or purulent discharge from the wound were considered signs of infection. Moreover, the result of the early secondary repair was evaluated as anatomically acceptable if the photo indicated that muscle ends were correctly connected, and the skin was sutured so that folds and skin colour seemed continuous and correct. Finally, the Urogynaecological Consultants evaluated whether there was any wound dehiscence after the early secondary repair.

The first author was responsible for organising the evaluation sessions presenting each case on a computer and recording the responses. The two Urogynaecological Consultants were shown the photos and informed of the diagnosis given at the primary assessment and suturing as well as the number of days from the early secondary repair to the clinical check-up. They discussed the photos and aimed for consensus in their evaluation. It was registered if consensus could not be reached. The first author who was in charge of the final data analyses was neither part of the resuturing team nor part of the evaluation of the photos.

Data were analysed using Stata/IC 15 (College Station, TX, USA). Continuous variables were checked for normality, proved to be right skewed and were therefore presented as median with interquartile range. Frequencies were presented with 95% confidence intervals. The study was strictly descriptive with no statistical comparisons across groups. Therefore, a power calculation had not been carried out.

The department management at the Department of Gynaecology and Obstetrics at Aarhus University Hospital granted permission to conduct the study. The study was reported to the Central Denmark Region Committees on Health Research Ethics (j.nr.: 1–10-72–4-17).

Results

During the study period, 182 early secondary repairs of labial tears, 1st and 2nd degree perineal lacerations, or episiotomies were performed, and 126 cases (69%) were deemed eligible for further analysis (Table 1). Due to organisational changes in the recording systems there

Table 1
Primary diagnosis of birth lacerations included for early secondary repairs at Aarhus University Hospital from 1 January 2014 to 11 August 2017. Perineal lacerations involving the sphincter complex have been excluded.

	All resutured cases in the study period (n = 182)	Included cases in the study period (n = 126)
Diagnosis at primary suturing		
Labia	73	54
1st degree perineal laceration	48	30
2nd degree perineal laceration	104	79
Episiotomy (mediolateral)	10	7
Other[1)]	11	2

NB: The same case may appear in more than one category (e.g. labia and 2nd degree perineal laceration), and therefore the sum of the different types of lacerations will not correlate with the n-value.

[1)] The category "Other" covers e.g ."Intrapartum opening of a female genital mutilation" and "no lacerations requiring suturing".