شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

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قسم

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The Effect of Mediolateral Episiotomy on Obstetric Anal Sphincter Injuries following Vaginal Delivery

Thesis

Submitted for Partial Fulfilment of M.D. Degree in Obstetrics & Gynaecology

Presented by

Khadiga Mostafa Hussein Hegab
M.B.B.Ch. (2011), M. Sc. (2016)
Faculty of Medicine, Ain Shams University
Assistant Lecturer in Obstetrics and Gynecology
Ain Shams Maternity University Hospital

Supervised by

Prof. Hisham Mohammed Fathy
Professor of Obstetrics and Gynecology
Faculty of Medicine, Ain Shams University

Prof. Haitham Abd EL-Mohsen Sabae
Assistant Professor of Obstetrics and Gynecology
Faculty of Medicine, Ain Shams University

Prof. Heba Abd EL-Basset Allam
Assistant Professor of Obstetrics and Gynecology
Faculty of Medicine, Ain Shams University

Faculty of Medicine
Ain Shams University
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Khadiga Mostafa Hussein Hegab

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List of Abbreviations

Abb.	Full term
2D US	Two-dimensional ultrasound
3D US	Three-dimensional ultrasound
ASC	Anal Sphincter Complex
ACOG	The American College of Obstetricians and Gynecologists
BMI	Body Mass Index
CTG	Cardiotocography
EAS	External Anal Sphincter
EAUS	Endoanal Ultrasound
IAS	Internal Anal sphincter
ITD	Inter tuberous diameter
JAMA	The Journal of the American Medical Association
MLE	Medio-Lateral Episiotomy
MRI	Magnetic Resonance Imaging
NICE	National Institute for Health and Care Excellence
OASIS	Obstetric Anal Sphincter InjurieS
PB	Perineal body
PPH	Postpartum haemorrhage
RCOG	Royal College of Obstetricians and Gynaecologists
RRR	Relative risk ratio
SPA	Sub-pubic arch
TPUS	Trans-Perineal Ultrasound
US	Ultrasound
Vs	Versus

INTRODUCTION

In a woman's life, childbirth is the moment of greatest impact on the muscles of the pelvic floor and the perineal body. During vaginal delivery, many women develop trauma to the perineum, these tears can involve the perineal skin, the pelvic floor muscles, the external and internal anal sphincter muscles as well as the rectal mucosa ***(Walsh and Grivell, 2015).***

The probability of this injury depends on the type of delivery; its association with forceps delivery is well established ***(Garriga et al., 2011; Krofta et al., 2009).***

Obstetrical anal sphincter injuries (OASIS) are a major risk factor for subsequent development of anal incontinence ***(Huebner et al., 2013; LaCross et al., 2015; Ozyurt et al., 2015; Richter et al., 2015; Sultan et al., 1993).***

Obstetric anal sphincter injury (OASIS) is defined as trauma that includes third- and fourth-degree tears. They are associated with high rates of short and long-term consequences for women ***(Pierce et al., 2015).***

The incidence of OASIS varies largely between countries and delivery units, 1.0-5.85% ***(Hals et al., 2010).***

OASIS is still mostly diagnosed immediately after delivery by clinical examination of the perineum. This

examination is subjective, and studies showed that sphincter injuries are often missed clinically ***(Andrews et al., 2006; Fletcher et al., 2003; Gupta et al., 2003).***

Clinical assessment of perineal tears can often be difficult due to multiple factors: poor lighting, difficulty identifying anatomy and maternal discomfort during examination. This can lead to a potential classification of an OASIS as second-degree perineal trauma ***(Andrews et al., 2006).***

Mediolateral episiotomy (MLE), a surgical enlargement of the vaginal orifice by a mediolateral incision in the perineum during the last part of the second stage of labour, is often performed, in order to prevent OASIS ***(Kalis et al., 2008).***

Nevertheless, studies have not clearly demonstrated the efficacy of episiotomy in the prevention of anal incontinence ***(Hartmann et al., 2005).***

Most studies examining whether episiotomies prevent OASIS and/or anal incontinence did not account for episiotomy technique, which has been shown to be an important determinant in preventing sphincter injury ***(Eogan et al., 2006).***

The angle of the episiotomy away from the midline has been proven to be crucial in reducing the incidence of OASIS ***(Stedenfeldt et al., 2012).***

The National Institute for Health and Care Excellence (NICE) recommends an angle of 45–60 degrees from the midline ***(NICE, 2007).***

Primary repair of OASIS has been shown to be associated with 63% evidence of a good outcome versus secondary repair where the result can decrease to be less than 50% continence ***(Oliver et al., 2008).***

Primary diagnosis of an obstetric anal sphincter injury is important, as an unrepaired or defect anal sphincter muscle increases the risk and prevalence of anal incontinence ***(Roos et al., 2010).***

Transperineal ultrasound (TPUS) is a more accurate and objective method to diagnose OASIS. It has been shown that ultrasound performed prior to repair of visible obstetric trauma could improve detection rates of OASIS and allow for improved surgical repair, reducing the morbidity suffered by women undergoing vaginal birth ***(Andrews et al., 2006).***

Ultrasound has proven to be a reproducible technique in the interobserver studies published ***(Dietz and Steensma, 2006),*** especially when ultrasound tomography images are used ***(Dietz, 2007).***

In our setting, episiotomy is performed relatively frequently in primigravidas, on the grounds that it protects the pelvic floor. However recently, papers published in the

literature argue for selective rather than systematic use of the procedure ***(Carroli and Belizan, 2000).***

In general, the effect of episiotomy on the obstetric anal sphincter has not been properly understood.

The objective of our study is to determine whether mediolateral episiotomy reduces the incidence of OASIS diagnosed immediately postpartum aided by TPUS, with two main questions in mind:

Does episiotomy really protect against obstetric anal sphincter injury?

And do variables such as duration of the second stage of labour, maternal BMI, neonatal weight, and neonatal head circumference, exert an influence?

AIM OF THE WORK

The aim of the study

To evaluate the relationship between mediolateral episiotomy and obstetric anal sphincter injuries in primiparous using 2D transperineal ultrasound immediately after delivery to aid in diagnosing anal sphincter injuries.

Research question

Does Medioloateral Episiotomy guard against Obstetric Anal Sphincter InjurieS (OASIS) in primiparous ladies?

Research hypothesis

Null hypothesis. Mediolateral episiotomy does not affect the incidence of Obstetric anal sphincter injuries in primiparous ladies undergoing vaginal delivery.