شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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HANAA ALY

Use of Intravenous Dexamethasone for Cervical Ripening and Labor Induction in Term Pregnancies with Pre-labour Rupture of Membranes: Quasi Randomized trial.

Thesis

Submitted for Partial Fulfillment of Master Degree in Obstetrics and Gynecology

By

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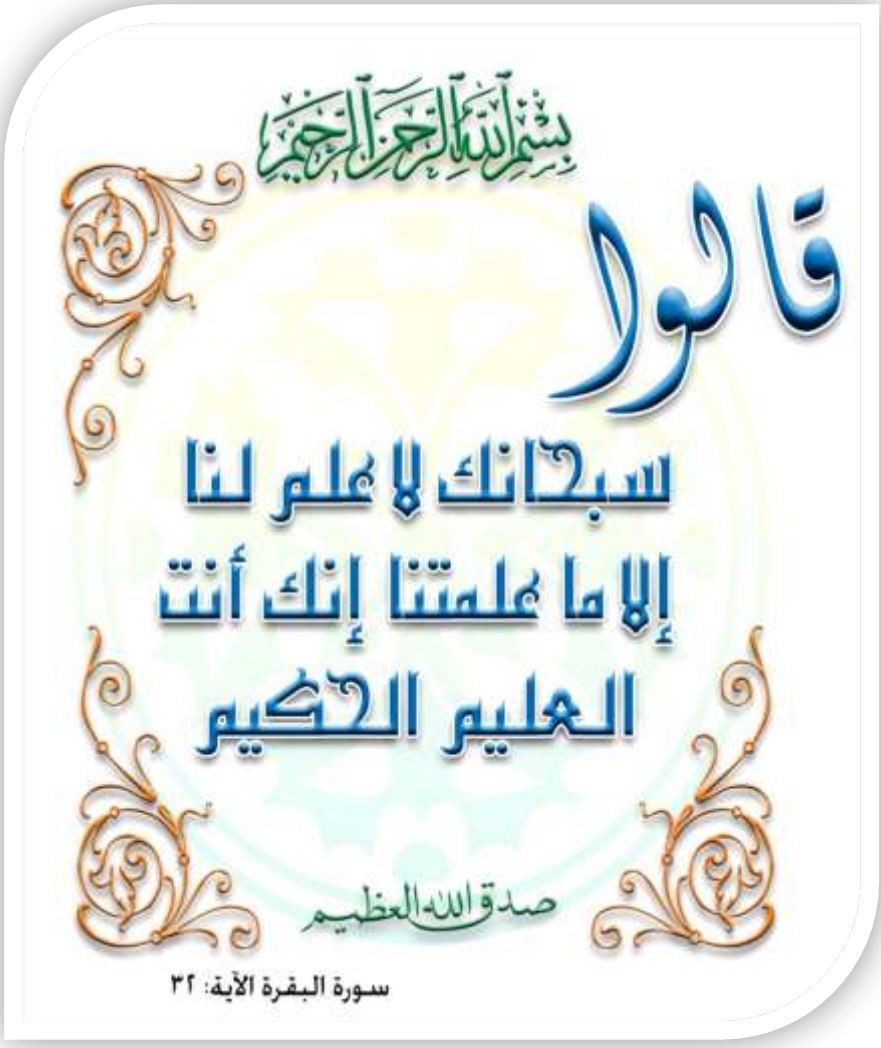
2021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قالوا
سبحانك لا علم لنا
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سورة البقرة الآية: ٣٢

Acknowledgments

First and foremost, I feel always indebted to **Allah**, *the* **Most Beneficent** *and* **Merciful** *who gave me the strength to accomplish this work.*

My deepest gratitude to **Prof. Dr. Amro Salah El Din El-Housseiny,** *Professor of Obstetrics and Gynecology,, Faculty of Medicine, Ain Shams University,, for his valuable guidance and expert supervision, in addition to his great deal of support and encouragement. I really have the honor to complete this work under his supervision.*

I would like to express my great and deep appreciation and thanks to **Prof. Dr. Sherif Hanafi Hussain,** *Professor of Obstetrics and Gynecology,, Faculty of Medicine, Ain Shams University, for his meticulous supervision, and his patience in reviewing and correcting this work.*

I must express my deepest thanks to **Dr. Sarah Safwat Moawad,** *Lecturer of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for guiding me throughout this work and for granting me much of her time. I greatly appreciate her efforts.*

I can't forget to thank with all appreciation **Dr. Wafaa Osman Ahmed,** *Lecturer of Pediatrics and neonatology, Faculty of Medicine, Ain Shams University whom tirelessly and freely gave comments on various drafts of this piece of work.*

Special thanks to my **Parents** *and all my* **Family** *members for their continuous encouragement, enduring me and standing by me.*

✍ *Mohamed Salah Abdel Rahman*

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Abbr.	Full-term

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Introduction

During the first 36 to 38 weeks of normal gestation, the myometrium is in a preparatory yet unresponsive state. Concurrently, the cervix begins an early stage of remodeling yet maintains structural integrity. Following this prolonged uterine quiescence, a transitional phase follows during which myometrial unresponsinveness is suspenced and the cervix undergoes ripening, effacement, and loss of structural cohesion ***(Cunningham et al., 2016).***

Cervical ripening is a complex process involving extensive remodeling and dynamic anatomic and physiologic alternations governed by hormonal changes, inflammatory responses, vasodilatory changes, and other biological processes. Prostaglandins, produced both locally in the cervix and uterus as well as originating from the fetal membranes, play a critical role in cervical ripening and uterine contractility by increasing inflammatory mediators in the cervix and inducing cervical remodeling ***(Bakker et al., 2017).***

Induction of labor is the process by which labor is started by its spontaneous onset by artificial stimulation of uterine contractions and/or progressive cervical effacement and dilatation, leading to active labor and birth. The clinical need for induction of labor occurs when the outcome of the

pregnancy would be improved if it is interrupted by induction, labor and birth ***(Luesly and Kilby, 2016).***

Steroid substances produced in the adrenal glands of human fetus affect the placenta and the membranes and transform the myometrium from the static to the contractile state. The placenta may play a role in this process because it produces a lot of CRH (Corticotropin releasing hormone). The adrenal glands of the fetus do not produce a considerable amount of cortisol until the third trimester. During the last weeks of pregnancy, the cortisol and DHEA-S (Dehydroepiandrosterone sulfate) contents of the fetus rise and this leads to an increase in maternal estrogens, a particularly sterol. The concentration of CRH in the fetus rises during the last 12 weeks of pregnancy. This results in modification of the contractility of the uterus, stimulation to produce C19 steroids from placental adrenaline, and increase in the estrogen content ***(Laloha et la., 2015).***

Studies have shown that corticosteroids analogues as dexamethasone could improve the Bishop score of the cervix and thus causes softening of the cervix and reduces the length of time between labor induction and delivery but further studies in that field is still needed ***(Laloha et al., 2015).***

Aim of the Work

This study aims to assess the effect of intravenous administration of dexamethasone on the induction delivery interval in term patients with prelabour rupture of membranes undergoing induction of labor.

Physiology of Labor

Labor is a physiological event involving a sequential, integrated set of changes within the myometrium, decidua and uterine cervix that occur gradually over a period of days to weeks. Biochemical connective tissue changes in the uterine cervix appear to precede uterine contractions and cervical dilation, and all of these events usually occur before rupture of the fetal membranes ***(Norwitz et al., 2015).***

The physiological processes that regulate parturition consist of endocrine and paracrine signals emanating from both mother and fetus. Their relative contributions vary between species, and it is these differences that complicate elucidation of the exact factors that regulate human parturition ***(Cunningham et al., 2016).***

• ***Theories of onset of labor:***

The exact mechanism, by which labor is started spontaneously, at either term or preterm, is unknown. Many theories have been proposed.

A- Oxytocin stimulation:

Endogenously produced oxytocin, which causes uterine contractions, may play a role in the spontaneous onset of labor. Levels of oxytocin in maternal blood in early labor are higher than before the onset of labor ***(Norwitz et al., 2015).***

Oxytocin influence must therefore rely on the presence of oxytocin receptors. Receptors are found in the non-pregnant uterus. Also there is a six fold increase in receptors at 13 to 17 weeks gestation and an 80-fold increase at term ***(Wu, 2012).***

B- Fetal cortisol levels:

Fetal cortisol levels may influence the spontaneous onset of labor. Disruption of hypothalamic-pituitary- adrenal axis or the absence of adrenal gland or function results in prolonged gestation in humans and sheep. In sheep, infusion of cortisol or adrenocorticotropic hormone (ACTH) into a fetus with an intact adrenal gland causes premature labor ***(Wu, 2012).***

C- Progesterone withdrawal:

There is no obvious decrease in maternal blood levels of progesterone at term or in labor. However, the progesterone level at the placental site may decrease before the onset of labor ***(Wu, 2012).***

D- Prostaglandin release:

Prostaglandins have long been believed to be involved in the spontaneous onset of labor. Although prostaglandins levels are increased in amniotic fluid during labor, there seems to be no parturition related increase prior to labor. The normal processes of labor appear to result in inflammation, which results in increased prostaglandin synthesis. Prostaglandins produced in myometrial tissue may contribute