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
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Accuracy of Transvaginal Ultrasound in Prediction of Latency Period in Women with Preterm Premature Rupture of Membranes

Thesis

Submitted for Partial Fulfillment of Master Degree
in **Obestetric & Gynecology**

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Ahmed Hamdi Mohammed El-Sefi

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List of Abbreviations

Abb.	Full term
ACOG	*American college of obstetrician and gynecologist*
AFI	*Amniotic fluid index*
AFP	*Alpha-fetoprotein*
AMH	*Antimullerian hormone*
AOR	*Adjusted odds ratio*
AUCA	*Anterior uterocervical angle*
BMI	*Body mass index*
BPP	*Biophysical profile*
BV	*Bacterial vaginosis*
CDC	*Centers for disease control and prevention*
CI	*Confidence interval*
CL	*Cervical length*
CPAP	*Continuous positive airway pressure*
CS	*Caeserian section*
FIBO	*International federation of gynecology and obstetrics*
GBS	*Group B streptococcal*
HIV	*Human immunodeficiency virus*
HSV	*Herpes simplex virus*
IGFBP-1	*Insulin like growth factors binding protein 1*
IL-6	*Interleukin 6*
IVH	*Intraventricular hemorrhage*
L/S	*Ratio lecithin/sphingomyelin ratio*
MEMU	*Maternal fetal medicine unit*
MMPs	*Matrix metalloproteinase*
NEC	*Necrotizing entoocolitis*

List of Abbreviations cont...

Abb.	Full term
NICHD	*National institute of child health and human development*
NSTs	*Nonstress tests*
PAMG	*Placental alpha micro globulin 1*
PUCA	*Posterior uterocervical angle*
PMD	*Paramesonephric duct*
PP12	*Placental protein 12*
PPROM	*Preterm prelabor rupture of membrane*
PROM	*Prelabour rupture of membrane*
ROC	*Receiver operating characteristics curve*
RR	*Relative risk*
SMFM	*Society for maternal fetal medicine*
STDs	*Sexually transmitted disease*
TIMMPs	*Tissue inhibitors of MMPs*
TLC	*Total leukocyte count*
TVUS	*Transvaginal ultrasound*
VD	*Vaginal delivery*

INTRODUCTION

Prelabor rupture of membranes (PROM) refers to membranes rupture before the onset of uterine contractions (previously known as premature rupture of membranes); PPROM refers to PROM before 37+0 weeks of gestation. It is responsible for, or associated with, approximately one-third of preterm births and the single most common identifiable factor associated with preterm delivery ***(Jantien et al., 2014).***

PPROM occurs in 3 percent of pregnancies approximately 0.5 percent of pregnancies <27 weeks, 1 percent of pregnancies 27 to 34 weeks, and 1 percent of pregnancies 34 to 37 weeks ***(Jantien et al., 2014).***

The fetus and neonate are at greater risk of PPROM-related morbidity and mortality than the mother. Prematurity-related morbidity varies with gestational age and is higher in the setting of chorioamnionitis. Fetal exposure to intrauterine inflammation has been associated with an increased risk of neuro developmental impairment ***(Soraisham et al., 2009).***

The initial evaluation of premature preterm rupture of membranes (PPROM) should include a sterile speculum examination to document ROM. Maternal vital signs should be documented as well as continuous fetal monitoring initially to establish fetal status. Ultrasonographic documentation of

gestational age, fetal weight, fetal presentation, and amniotic fluid index should be established. Digital examination should be avoided, but visual inspection of the cervix can accurately estimate cervical dilatation. Digital examination of the cervix with PPROM has been shown to shorten latency and increase risk of infections without providing any additional useful clinical information ***(Simhan et al., 2005).***

If after initial evaluation of the mother and fetus, they are both determined to be clinically stable, expectant management of PPROM may be considered to improve fetal outcome. The primary maternal risk with expectant management of PPROM is infection. This includes chorioamnionitis (13-60%), endometritis (2-13%), sepsis (< 1%), and maternal mortality (1-2 cases per 1000). Complications related to the placenta include abruption (4-12%) and retained placenta or postpartum hemorrhage requiring uterine curettage (12%) ***(Mercer et al., 2004).***

The key decision is whether to induce labor (or perform cesarean delivery) or to manage the pregnancy expectantly. Prolonged latency after PPROM at 23 to 34 weeks does not worsen neonatal prognosis ***(Lorthe et al., 2017).***

So, Expectant management in the setting of PPROM, and in the absence of obstetric complications, is considered beneficial to the fetus by increasing gestation age at birth ***(Morris et al., 2016)***

The term latency refers to the time between membrane rupture and delivery. Latency is an important factor for neonatal survival in these patients ***(Park et al., 2006),*** Studies showed that latency period after PPROM is associated with a higher infant mortality rate specially when occur before 30 weeks' gestation, with pulmonary disease being the major cause of death ***(Pasquier et al., 2007).***

So having adequate knowledge about latency period after PPROM and conducting appropriate management such as early referring to well-equipped center, clinicians can save mother and fetus.

Digital vaginal examination is avoided in these women as it increases the risk of infection and shown to decrease the latent period of entering into labor ***(Vermillion et al., 2000).***

Transvaginal sonographic assessment of cervix, although deemed to be safe, has not been much studied for the prediction of time to delivery in women having preterm premature rupture of membranes ***(Tsoi et al., 2004).***

So, the objective of this study will be to assess the Accuracy of cervical parameters measured by transvaginal sonography, that is, posterior uterocervical angle, anterior uterocervical angle and cervical length in prediction of latency period in Women with Preterm Premature Rupture of Membranes.