ROLE OF METRONIDAZOLE IN TREATMENT OF BACTERIAL VAGINOSIS IN MIDPREGNANCY IN PREVENTION OF PRETERM LABOUR

Thesis
Submitted for Partial Fulfillment of The Master Degree in Obstetrics and Gynecology

By

Khaled Fathi Esmail Abo El-Soud
M.B.B.Ch., ٢٠٠١ (Al-Azhar University)

Supervised by

Prof. Osama Saleh El-Kady
Professor of Obstetrics & Gynecology
Faculty of Medicine
Ain Shams University

Dr. Ahmed Mohamed Khairy Makled
Assistant Professor of Obstetrics & Gynecology
Faculty of Medicine
Ain Shams University

Dr. Abdel-Latif Galal El-Kholy
Assistant Professor of Obstetrics & Gynecology
Faculty of Medicine
Ain Shams University

Faculty of Medicine
Ain Shams University
Cairo

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Acknowledgment

I would like to express my endless gratitude and appreciation to **Prof. Dr. Osama Saleh El-Kady,** *Professor of Obstetrics and Gynecology, Faculty of medicine - Ain Shams University, for giving me the honor of working under his supervision and providing me with a lot of encouragement and support.*

My special thanks and deep obligations to **Dr. Ahmed Mohamed Khairy Makled,** *Assistant Professor of Obstetrics and Gynecology, Faculty of medicine - Ain Shams University, for his generous assistance and valuable guidance and unfailing efforts during the whole period of the study.*

This work would have never been completed without the great help, close supervision offered by **Dr. Abdel-Latif Galal El-Kholy,** *Assistant Professor of Obstetrics and Gynecology, Faculty of medicine - Ain Shams University.*

Khaled Fathi Esmail Abo El-Soud

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List of Abbreviations

ACOG	American college of Obstetric and Gynecology
BPDE	Benzol pyrone diol epoxide
BV	Bacterial vaginosis
CAP	Contraction associated proteins
CDC	Centers for disease control
cGMP	Cyclic guanosine monophosphate
CIN	Cervical intraepithelial neoplasia
CNS	Central nervous system
CMI	Cell mediated immunity
CRH	Corticotropin releasing hormone
CRP	C- reactive protein
DM	Diabetes mellitus
EDD	Expected date delivery
FDA	Food and drug administration
FTD	Full term delivery
GA	Gestational age
GIT	Gastro intestinal tract
Gm	Gram
HCG	Human chorionic gonadotrophin
HIV	Human immunodeficiency virus
HRT	Hormonal replacement therapy
HSV-۲	Herpes simplex virus-۲
IUD	Intra uterine device

List of Abbreviations

IgA	Immunoglobulin A
IgG	Immunoglobulin G
IL	Interleukin
IVF	In vitro fertilization
LMP	Last menstrual period
mV	Millivolt
NGU	Non gonococcal urethritis
NO	Nitric oxide
NPT	Neoptrin
OC	Oral contraceptive
PCR	Polymerase chain reaction
PCT	Procalcitonin
PID	Pelvic inflammatory disease
PROM	Premature rupture of membrane
PTD	Preterm delivery
RCOG	Royal college of Obstetric and
RCT	Gynecology
RDS	Randomised controlled trial
STD	Sexual transmitted disease
TLR	Respiratory distress syndrome
TNF	Toll- like receptors
WBCs	Tumor necrosis factor
	Wight blood cells

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دور المترونيدازول فى علاج المرض البكتيرى المهبلى فى منتصف الحمل فى منع الولادة المبكرة

رسالة كجزء متمم للحصول على درجة الماجستير فى أمراض النساء و التوليد

مقدم من الطبيب

خالد فتحى اسماعيل أبوالسعود

بكالوريوس الطب والجراحة ٢٠٠١ جامعة الأزهر

تحت إشراف

أ.د./أســـــــــامه صالح القـــــــــاضى

أستاذ أمراض النساء و التوليد

كلية الطب جامعة عين شمس

أ.د.م./أحمـــــــــد محمد خـــــــيرى مقـــــلد

أستاذ م. أمراض النساء و التوليد

كلية الطب جامعة عين شمس

أ.د.م./عبد اللطيف جلال الخولى

أستاذ م. أمراض النساء و التوليد

كلية الطب جامعة عين شمس

كليـــــــة الـــطب

جامعـــــة عـــــين شـــــمس

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INTRODUCTION

Bacterial vaginosis is the most common cause of abnormal vaginal discharge among women of childbearing age **(Ralph et al., ١٩٩٩).** Its prevalenc ranges from ٥٪ in women without any symptoms to ٢٥٪ in those with gynecologic symptoms **(Mead, ١٩٩٣).**

Bacterial vaginosis is considered one of the most common alternation of the vaginal ecosystem in women of reproductive age **(Hillier et al., ١٩٩٩ and Simoes et al., ٢٠٠١).** It is a polymicrobial condition characterized by overgrowth of mixed vaginal flora of aerobic, anaerobic and microaerophilic species in very large number **(Mclean & Rosenstein, ٢٠٠٠).**

Most women with bacterial vaginosis are heavily colonized by Gardnerella vaginalis, however, the exact role of this organism in the development of bacterial vaginosis is not well understood. The current theory is that quantitative, rather than qualitative, changes in the bacterial population are responsible for establishing bacterial vaginosis **(Spiegel, ٢٠٠٠).**

Symptoms of bacterial vaginosis are nonspecific, and diagnosis should rely on confirmatory tests **(Anderson & Acohrssen, ٢٠٠٤ and Landers et al., ٢٠٠٤).**

The two most widely accepted methods for the diagnosis of bacterial vaginosis Amsel's composite criteria (ACC) **(Amsel et al., ١٩٨٣)** and Nugent's Gram stain evaluation of bacterial morphotypes (NBM) **(Nugent, & Hillier, ١٩٩١)** are used insufficiently in routine practice **(Langsford et al., ٢٠٠١),** the former is cumbersome and not easily subjected to quality control, and the apparent complexity of the latter may have limited its adoption by clinical laboratories **(Wiesenfeld & Masio, ١٩٩٩).** A simple interpretation of Gram stained smears, described by (Thomason's clue cell criteria [TCC]) offers a major advantage over other Gram stain interpretative methods for diagnosis of bacterial vaginosis **(Thomason et al., ١٩٩٢).**

Ascending infections of the lower genital tract in pregnant women are associated with preterm delivery (PTD)

(Minkoff, ١٩٨٣ and Terzidou, & Bennett, ٢٠٠٢), bacterial vaginosis in pregnancy may favour ascending infections and is considered a risk factor for adverse outcome such as preterm delivery, premature rupture of membranes or miscarriage **(Eschenbach et al.,١٩٨٤ and Gravett et al., ١٩٨٦),** in order to decrease the preterm delivery rate, screening for bacterial vaginosis during the second trimester of pregnancy followed by antibiotic administration in the positive cases has been proposed. Such a policy has proved to be advantageous in pregnant women with a previous PTD **(Hauth et al., ١٩٩٥ and Morale's et al., ١٩٩٤).**

AIM OF THE WORK

The aim of the present work is to assess the role of diagnosis and treatment of bacterial vaginosis by metronidazole in pregnant women with previous preterm labour in prevention of preterm labour.

PATIENTS AND METHODS

Design:

Double blinded case-control study.

Setting:

Ain Shams University Maternity Hospital and Damanhore Teaching Maternity Hospital.

Participants:

One hundred cases of pregnant women with a previous preterm delivery attending the outpatient clinics, cases will be divided into two groups.

- Group I (Study group): composed of fifty cases with bacterial vaginosis.
  This group subdivided into two groups.
  - Group I (a) twenty five cases with placebo.
  - Group I (b) twenty five cases with metronidazole treatment.
- Group II (Control group): composed of fifty cases without bacterial vaginoses.

Exclusion criteria:

١- Multiple pregnancy, polyhydramnios.

٢- Suspected or known mullerian anomalies.

٣- Systemic diseases as DM, chronic hypertention, chronic renal disease, anaemia and congenital heart disease.

٤- Smoking pregnant women.

٥- Pelvic tumour as fibroid or ovarian cyst.

٦- Cervical cerclage.

- Consent will be obtained from each participating pregnant women.

Screening test will be done by Thomason`s method for diagnosis of bacterial vaginosis at midtrimester (٢٢-٢٤ weeks) in women with previous preterm labour, all participants will be offered a smear test of vaginal secretion, a dry speculum will be inserted into the vagina, and drops of secretion from the posterior fornix will be examined by a rapid gram stain interpretation method described by Thomason et al. (Thomason`s Clue cell Criteria [TCC]). Once we obtain fifty cases without bacterial vaginosis (control group) and fifty cases with bacterial vaginosis (study group) we stop the screening test, the study group will be subdivided into two groups,

- Group (١) twenty five cases will receive placebo.

- Group (٢) twenty five cases will receive metronidazole (٢٥٠mg three times a day for ٧ days), the gestational age at delivery will be investigated for each pregnancy using the hospital records or telephonic interviews to detect the preterm labour [before ٣٧ weeks of pregnancy **(American College of Obestetricians and Gynecologists, ١٩٩٥)** detected by L. M. P. or by first trimesteric U/S].

Results:

Data will be collected and tabulated for further statistical studies.