

Value of Nidogen -2 in Assessment of Women with Ovarian Mass

Thesis

Submitted for Partial Fulfillment of Master Degree In Obstetrics and Gynecology

By

Fikry Tarik Mansour

M.B.B.Ch. Ain Shams University (2011) Resident of Obstetrics and Gynecology El gala Teaching Hospital

Under Supervision of **Prof. Dr. Sherif Fikry Hendawy**

Professor of Obstetrics and Gynecology Faculty of Medicine - Ain Shams University

Prof. Dr. Sherif Fathy El-Mekawy

Professor of Obstetrics and Gynecology Faculty of Medicine - Ain Shams University

Dr. Ahmed Mohammed Bahaa Eldin Ahmed

Assistant Professor of Obstetrics and Gynecology Faculty of Medicine - Ain Shams University

> Faculty of Medicine Ain Shams University 2016





First of all, thanks to **ALLAH**, to whom I relate any success in achieving any work in my life.

Second, I wish to express my sincere gratitude to **Prof. Dr. Sherif Fikry Hendawy**, Professor of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, who I had the privilege of doing this thesis under his supervision. My sincere thanks for his continuous guidance, and support, beneficial advice and valuable criticism during the whole research period.

I would like to offer sincere thanks and appreciation to **Prof. Dr. Sherif Tathy El- Mekawy**, Professor of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his enthusiastic help, supervision, continuous encouragement and endless support during the whole of research period.

I would like to display my indebtedness to **Tr. Ahmed**Mohammed **Bahaa Eldin Ahmed**, Assistant Professor of

Gynecology and Obstetrics, Faculty of Medicine, Ain Shams

University, for his support, faithful advice and meticulous

supervision.

Last but not least, I thank all patients and subjects participated in this work.

Also I would like to thank my family who stood behind me to finish this work and for their great support.

Fikry Tarik Mansour



Contents

List of Abbreviations	I
List of Tables	II
List of Figures I	II
Protocol	.
Introduction	1
Aim of the Work	5
Review of Literature	
 Chapter (1): Anatomy, Physiology and Embryology the Ovary Chapter (2): Prediction of malignancy in adnexal mass Chapter (3): Tumour Markers in Diagnosis of Ovari Cancer Chapter (4): The Nature of Nidogen-2 and its Role if the Body 	6 15 an 45
Patients and Methods	59
Results	75
Discussion	94
Summary10	00
Conclusion 10)2
Recommendation 10)3
References10)4
Arabic Summary	

List of Abbreviations

Abb.	Description
AFP	Alpha Fetoprotein
BRCA	Breast Cancer Association Gene
CA 19-9	Cancer or Carbohydrate Antigen 19-9
CA125	Cancer or Carbohydrate Antigen 125
CI	Confidence Interval
ECDU	Early Cancer Detection Unit
FIGO	International Federation of Obstetrics and Gynaecology
hCG	Human Chorionic Gonadotrophin
LASA	Lipid-Associated Sialic Acid
LPA	Lysophosphatidic Acid
Nid-2	Nidogen-2
NOS	Not Otherwise Specified
OCPs	Oral Contraceptive Pills
PET	Positron Emission Tomography
PI	Pulsatility Index
PJS	Peutz-Jeghers Syndrome
RI	Resistance Index
SCSTs	Sex Cord Stromal Tumours
SIADH	Syndrome of Inappropriate Antidiuretic Hormone
UGF	Urinary Gonadotrophin Fragment

List of Tables

Table	Title	Page
1	Risk Factors of Ovarian Cancer	16
2	Classification and Frequency of Ovarian Neoplasms	20
3	Classification and Frequency of Epithelial Ovarian Tumour	22
4	Staging of Ovarian Cancer According to International Federation of Gynaecology and Obstetrics	44
5	Kolmogorov-Smirnov test of normality for measured numeric variables	75
6	Characteristics of included women	76
7	Mean and SD of the Age and Parity of Studied Population	77
8	Past and family history in included women	78
9	Presenting complaint in included women	79
10	Sonographic features of the ovarian mass in included women	80
11	Histopathological results of the ovarian mass in included women	81
12	Staging and grading of the malignant ovarian mass in included women	82

Table	Title	Page
13	Difference between women with benign and malignant ovarian masses regarding initial characteristics	86
14	Difference between women with benign and malignant ovarian masses regarding past medical history and family history of malignancy	88
15	Symptomatology in the Study Population	89
16	Surgical interventions done to the studied Population	90
17	Serum levels of Nidogen-2 and CA-125	91
18	Diagnosis of Cases Using CA-125 and Nidogen-2 Serum Levels and Doppler U/S	92
19	Sensitivity, Specificity, PPV, NPV, and Accuracy of Nid-2 and CA125 and Doppler U/S	93

List of Figures

Figure	Title	Page
1	Ovaries, anterior view	9
2	Ovaries, sagittal view	9
3	The developing ovary	14
4	Different origins of ovarian cancer	19
5	Transvaginal sonogram depicts a complex ovarian mass	40
6	Role of Nidogen-2 in the Mechanical Stability of Basement Membrane	61
7	Distribution of CA125 and nidogen-2 according to the histotype of ovarian cancer. The horizontal line indicates median values	67
8	ROC curves of serum nidogen-2 and CA125 levels and their combination	68
9	Mean and SD of the Age of Studied Population	77
10	Pie-Chart showing staging of the malignant ovarian mass in included women	84
11	Pie-Chart showing grading of the malignant ovarian mass in included women	84
12	Box-plot chart showing difference between women with benign and malignant ovarian masses regarding age	87

Figure	Title	Page
13	Bar-chart showing difference between women with benign and malignant ovarian masses regarding menopausal status	87
14	Symptomatology in the Study Population	89
15	Surgical interventions performed to the studied Population	90
16	Sensitivity, Specificity, PPV, NPV, and Accuracy of Nid-2 and CA125 and Doppler U/S	93



Protocol





Introduction





Aim of the Work





Chapter (1)

Anatomy, Physiology and Embryology of the Ovary





Chapter (2)

Prediction of Malignancy in Adnexal Mass





Chapter (3)

Tumour Markers in Diagnosis of Ovarian Cancer

