

Dedicated

To my family.

Acknowledgment

I am indebted with great thanks and appreciation to the medical staff in both Dongola Hospitals in which this study was conducted.

Special thanks and gratitude to Dr. El Safi, my supervisor for the great help, encouragement and advice he offered me to complete this work.

Lastly and not least is my great gratitude to the Nile

Infertility Centre team who generously enabled me to access all activities done at their Centre.

ABSTRACT

Infertility is defined as a failure of conception in a couple for one or two years despite regular intercourse. In this study, the ultrasound findings of 42 infertile women at Dongola District on the period April-August 2001 were documented and discussed. To bias towards more ultrasound findings females with male partners who have infertile semen were excluded.

Endometrial thickness at different phases of the menstrual cycle was recorded, myomas of different sizes and locations was viewed in eight cases. More than 40% of cases were found to have polycystic ovaries; using vaginal ultrasonography. Four patients have ovarian cysts of different sizes. Five patients were subjected to follicle monitoring during natural menstrual cycles for evidence of spontaneous ovulation. One patient was found to have a hyperstimulated ovary after an ovulation induction treatment. One patient with pelvic inflammatory disease and a patient with Gartners cyst were diagnosed with ultrasonography.

Infertility is a major medical problem and with ultrasound at hand , many genital pathologies and abnormalities can be detected and thus may aid the clinician to manage infertility better.

The scope of ultrasonography in Assisted Reproductive Technology is documented in this study from the activities attended at an infertility centre at Khartoum; follicle tracking, saline infusion sonography, ovum pick-up etc..

Ultrasonography; being cheap and feasible, is of great help to the clinician to grasp a diagnosis. This study shows the central role of ultrasonography in diagnosis and management of infertility.

The high incidence of polycystic ovary revealed in this study calls for a recommendation for further study in that part of the country on incidence of polycystic ovaries and possible causes behind it.

Contents

Topic	Page
Dedication	I
Acknowledgment	II
ABSTRACT	III
Contents	IV
Chapter One	
Introduction	1
Chapter Two	
Section One:	
1.1 Basic Medical Knowledge	3
1.2 The Menstrual Cycle	9
1.3 Infertility and Genital Organ Pathology	11
Section Two :	
2.1 Ultrasound Imaging in Infertility	20
Diagnosis of infertility	21
Ultrasonic examination to evaluate & treat infertility	22
Ultrasonographic imaging	
2.2 Literature Review	24

Diagnostic use of ultrasonography in:	36
Ovary	39
Oviduct	45
Uterus	45
Gartner's Cyst	45
Nabothian's Cyst	46
Evaluation of the endometrial cavity and oviduct	
2.3Therapeutic uses of U/S in infertility	52
Follicle growth rate assessment	53
Ovarian hyperstimulation	55
Ultrasound-guided oocyte retrieval	58
Ultrasound-guided embryo transfer	

Chapter Three	
3.1 Material	61
3.2 Method	62
Sample size	
Exclusion & inclusion criteria	62
Method of data collection	62
Method of data analysis	63
Chapter Four	
Results	64
Findings in the ovary	65
Findings in the uterus	65
Other ultrasonic findings	66
Tables	67
Chapter five	
Discussion	74
Conclusion	79
References	80
Appendixes	86