



TABLE OF CONTENTS

INTRODUCTION	1-15
MATERIAL AND METHODS	16-37
CHAPTER – 1	38-57
NEONATAL HYPERMELATONEMIA IN THE PRE-WEANING PERIOD DECREASES INSULIN LEVELS BUT POTENTIATES INSULIN MEDIATED SYSTEMIC CARBOHYDRATE METABOLISM.	
CHAPTER – 2	58-74
NEONATAL HYPERMELATONEMIA POTENTIATES PERIPHERAL GLUCOSE UPTAKE IN THE RAT: AN <i>IN VITRO</i> STUDY ON LIVER AND MUSCLE SLICES.	
CHAPTER – 3	75-87
NEONATAL HYPERMELATONEMIA IN THE PREWEANING PERIOD DECREASES TISSUES LIPID AND CHOLESTERAL CONTENTS AND INCREASES SERUM LIPID FRACTIONS.	
CHAPTER – 4	88-107
NEONATAL HYPERMELATONEMIA INCREASES SERUM INSULIN LEVEL AND FURTHER POTENTIATES THE GLYCOGENIC AND PROTEIN ANABOLIC INFLUENCE FROM WEANING TO PUBERTAL AGE.	
CHAPTER – 5	108-136
NEONATAL HYPERMELATONEMIA INCREASES GLUCOSE UPTAKE BUT DECREASES GLUCOSE OXIDATION BY LIVER AND MUSCLE IN THE PUBERTAL PERIOD: AN <i>IN VITRO</i> STUDY.	

CHAPTER – 6	137-149
NEONATAL HYPERMELATONEMIA INCREASES INSULIN SENSITIVITY AND POTENTIATES LIPOGENESIS FROM WEANING TO PUBERTAL PERIOD.	
CHAPTER – 7	150-168
INCREASED TISSUE GLYCOGEN AND PROTEIN CONTENTS AND SERUM INSULIN LEVEL IN POST PUBERTAL RATS AS LONG TERM EFFECTS OF NEONATAL HYPERMELATONEMIA.	
CHAPTER – 8	169-190
RESISTANCE TO <i>IN VITRO</i> GLUCOSE UPTAKE BY ADULT TISSUES OF NEONATAL HYPERMELATONEMIC RATS AND INCREASED SENSITIVITY TO MELATONIN AND ACETYLCHOLINE BY TISSUES OF NORMAL RATS	
CHAPTER – 9	191-203
NEONATAL HYPERMELATONEMIA ALTERS LIPID STATUS OF YOUNG ADULT RATS: LONG TERM EFFECTS OF MELATONIN.	
CHAPTER – 10	204-252
LONG TERM PROTECTIVE EFFECT OF NEONATAL MELATONIN ADMINISTRATION ON ALLOXAN INDUCED DIABETES IN WEANING RATS	
CHAPTER – 11	253-299
NEONATAL MELATONIN ADMINISTRATION PREDISPOSES ADULT RATS TO INSULIN RESISTANCE AND DEVELOPMENT OF DIABETES DUE TO WEANING ALLOXAN TREATMENT.	
GENERAL CONCLUSIONS	300-312
BIBLIOGRAPHY	313-348