

VERY YOUNG PRIMIGRAVIDA AND ELDERLY PRIMIGRAVIDA

Essay

Submitted for partial fulfillment of
Master Degree in Obstetrics and Gynaecology

By

Madiha Mohammed Bayomi

M.B., B.Ch.

Under Supervision of

Prof. Dr. Ahmed Rashed

Prof. of Obst. and Gyn.

Faculty of Medicine

Ain Shams University

Assis. Prof. Dr. Essam Mohamed Khater

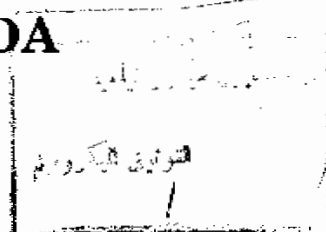
Assis. Prof. of Obst. and Gyn.

Faculty of Medicine

Ain Shams University

**Faculty of Medicine
Ain Shams University**

1994



618.3
M. M

لوفتت
د. رashed

Handwritten signature of Prof. Dr. Ahmed Rashed.

Handwritten signature of Assis. Prof. Dr. Essam Mohamed Khater.



ACKNOWLEDGEMENT

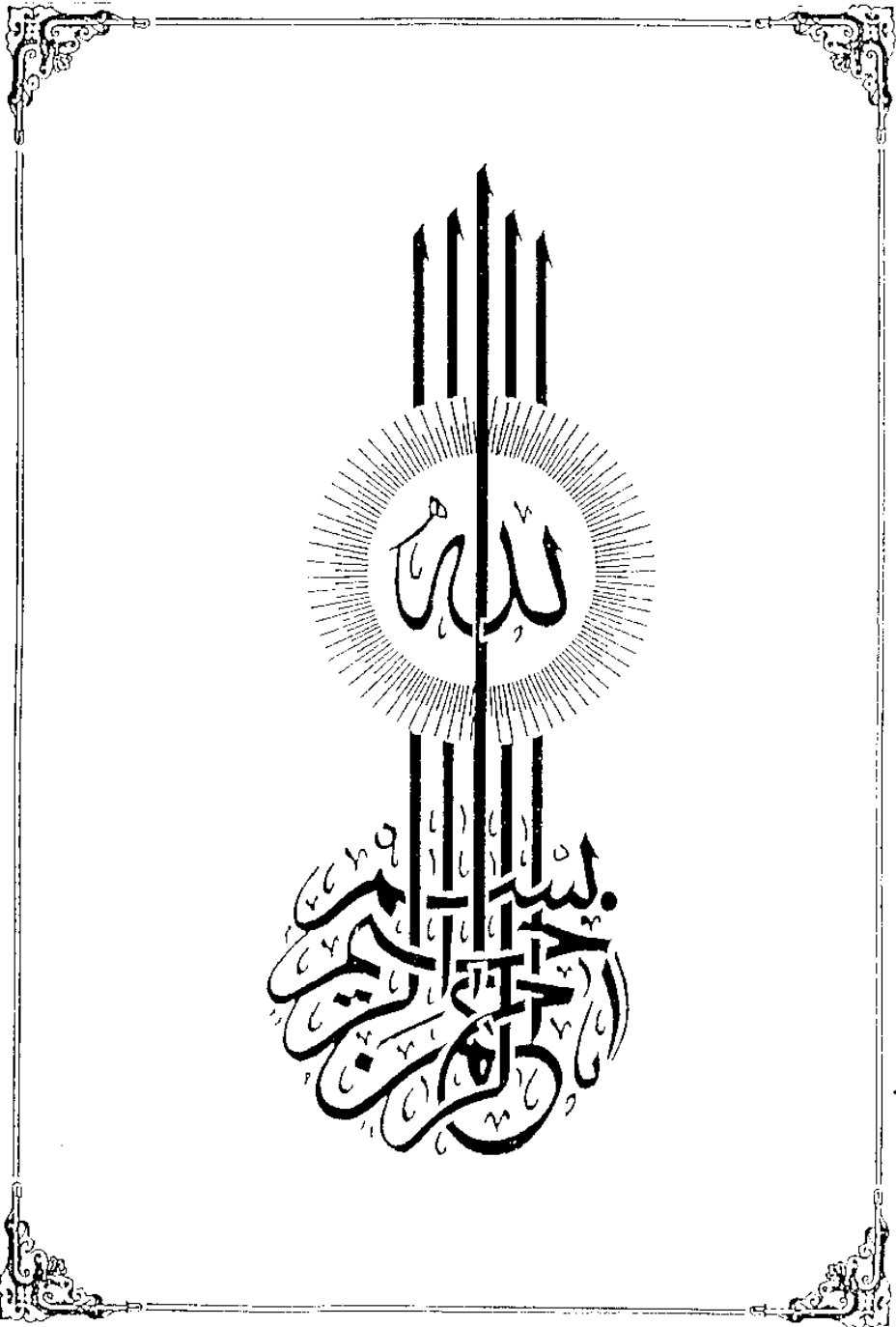
First and foremost, thanks are due to GOD, the most beneficent, unlimited and continuous blessing on me.

I would like to express my sincere gratitude to Prof. Dr. Ahmed Rashed, Prof. of Obst. and Gyn. Faculty of Medicine, Ain Shams University, for his support, meticulous supervision and valuable advice aiming at the perfection of this work.

My sincere thanks to Assis. Prof. Dr. Essam Mohamed Khater, Assis. Prof. of Obst. and Gyn. Faculty of Medicine, Ain Shams University, for his helpful remarks in the perfection and completion of this work.

I wish to show my gratitude to all those who sincerely helped me in this work.

Madifa M. Bayomi
1994



CONTENTS

	Page
Introduction	1
Very young primigravida	11
Definition	11
Maternal complications	13
Fetal complications	33
Elderly primigravida	51
Definition	51
Maternal complications	53
Fetal complications	67
Summary and Conclusion	84
References	92
Arabic Summary	--

INTRODUCTION

INTRODUCTION

Aging:

Aging is a general physiologic process that is as yet poorly understood. It affects cells and the systems made up of them, as well as tissue components such as collagen and numerous theories have been advanced to explain it. One theory holds that tissues age as a result of random mutations in the DNA of somatic cells with consequent introduction of cumulative abnormalities.

Others hold that cumulative abnormalities are produced by increased cross-linkage of collagen, other proteins and DNA, possibly as the end result of the non enzymatic combination of glucose with amino groups on these molecules.

A third theory envisions aging as the cumulative result of damage to tissues by free radicals formed in them.

Some investigators have speculated that in mammals, there is a biologic clock, possibly located in the hypothalamus that is responsible for aging via hormonal or other pathways.

However, it seems fair to say that at present, despite intensive research, the mechanisms of aging are still unknown.

Effect of aging on genital organs:

With aging, not only the total number of ovarian follicles decreases, but also the oocytes that remain are those which are most resistant to stimulation by gonadotrophins. In the early reproductive years, the normal feed back mechanisms of the hypothalamus and pituitary are usually more than sufficient to compensate for any increase in the resistance of follicles to stimulation by gonadotrophins and to ensure regular ovulation, normal corpus luteum formation and a regular menstrual cycle.

From about the age of 35 years on wards, follicular development tends to become progressively more deficient and in the last 5 to 15 years of reproductive life the proportion of anovulatory cycles increases and the menstrual cycle may become irregular with unduly long or short cycles (*Treloar and Boynton, 1967*).

Sherman and Korenman (1975) have shown that the frequency of ovulation decreases as early as age 30. It is not clear whether aging of the reproductive organs causes reproductive failure or not. There is minimal change in the histology of the fallopian tubes but not until age 60 does the epithelium flatten out and the cilia disappear. This loss of cilia is thought to be related to declining estrogen concentrations (*Woodruff and Pauerstein, 1969*).

Few data are available regarding the physiology of the aging myometrium during the reproductive years. If changes

in myometrium contractile efficiency do occur, they do not appear to be reflected in obvious morphology alterations (Wayne *et al.*, 1979).

Elderly women have sclerotic lesions in the myometrial arteries that might limit blood flow. They are not the atherosclerotic lesions that develop with age in elastic arteries, but rather fibrotic lesions confined to the media of muscular arteries. In this disorder, collagen and longitudinally oriented smooth muscle replace the normal circularly oriented smooth muscle in the arterie's media. Collagen progressively replaced normal muscle in the walls of myometrial arteries. If these lesions restrict the luminal expansion of the arteries they may restrict blood flow to the placenta in older women. The percentage of intramyometrial arteries with those described lesions increased from 11% at age of 17 to 19 years to 37% at 20 to 29 years, 61% at 30 to 39 years, and 83% after age 39 years (Naeye, 1983).

Effect of aging on the bony pelvis:

The bony pelvis is made up of four bones, two innominates, the sacrum and the coccyx.

The innominate bone consists of three separate bones, the ilium, the ischium, and the pubis. These bones are united by cartilage throughout childhood and fuse together in and around the acetabulum about the time of puberty. The adult bone shows little evidence of its derivation from three distinct rudiments.

At birth, the crest of the ilium, the body and inferior ramus of the pubis, the inferior ramus of the ischium, the ischial tuberosity and nearly the whole of the acetabulum, are cartilagenous.

By the eighth year in the female, the cartilage between the inferior rami of the ischium and pubis has disappeared and the bones are fused together in this position. The

cartilage in the vicinity of the acetabulum is now reduced to a y-shaped strip, for the fossa is almost completely ossified.

Six secondary centres appear between the eighth year and puberty: one for the iliac crest, one for the anterior inferior iliac spine, one for the symphysis pubis, one for the ischial tuberosity, and two or more for the y-shaped cartilage in the acetabulum. The secondary centres in the acetabulum appear first about the 12th year and are united soon after puberty. The remaining secondary centres do not fuse before the twentieth year.

With the onset of the reproductive life at puberty the bony ring of the pelvis is completely ossified and ready for any demand that may be made upon it.

As regards the sacrum, at 5 years of age the costal parts fuse with the arches, at 6 years the arches fuse with

the body. At 8 years the costal parts fuse with the body and thus the lateral mass is complete.

At puberty the neural arches are complete. Secondary centres appear for the upper and lower surfaces of the bodies, for the articular surface and the lateral margin below it.

At 15 years, these centres commence to fuse with the bodies, the bodies fuse with each other from below upwards and the spines fuse with each other to form the sacral crest. These unions are normally completed by the age of 20 years.

The coccyx is cartilagenous at birth. Each vertebra is ossified from one primary centre which appears between birth and puberty. The segments tend to fuse from below upwards after puberty in the male but in the female they often remain separate until a comparatively late period in life.

Physiologic obstacles in adolescence:

At the adolescence period, the pelvic growth lags behind the height growth, and this period of increased demands due to rapid growth makes the incidence of anaemias and malnutrition higher than middle age. Psychological problems especially in females are met with more frequently during this age group (*Gorn and Petzold, 1983*).

Conception at adolescence:

Contributions to the literature on obstetric performance of adolescents have become increasingly numerous.

In the past, they were enthusiastic to adolescent pregnancy.

Harris (1922) reported that: "the age of 16 is the optimum time for the occurrence of the first labour". Many researchers by now contradicted him and were cautious about adolescent pregnancy. *Haskins (1963)* stated that:

"significant differences were noted in adolescent group as regards premature labour, uterine inertia, prolonged labour pelvic contractions, premature separation of the placenta, caesarean section, hypertensive disorders with pregnancy and fetal anomalies". *Israel (1963)* have indicated that hypertensive disorders, prolonged labour and small infants occur more frequently in adolescent group than in general obstetric population.

Perkins et al. (1978) reached more optimistic results, since they did not report any relevant medical difference between teen age and adult obstetric problems. They mentioned that it was merely a matter of antenatal care. Another optimistic attitude was held by *Walcher and Petru (1989)*, who consider youthful mothers as no longer a higher obstetric risk. This was upon their study performed on 476 young primigravidae of ages varying between 12-17 years. They found the incidence of breech presentation, preterm deliveries and forceps deliveries to be about the same as in

the general obstetric population. While, intrauterine fetal deaths, third stage complications caesaren section deliveries and pre-eclampsia were even markedly less in the young population.

Briggs (1962), Clark (1970) and Zackler (1969) and their colleagues have demonstrated that the unique medical problems associated with early teenage pregnancy are controllable and that the outcome should not differ appreciably from that in older populations. Unfortunately the young teenager uses prenatal services much less than older women for various cultural and psychological reasons and the consequence is often disastrous.
