

The Relation of Mother's Age to obstetric Performance At Ain Shams University Maternity hospital

A Thesis

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in obstetric and gynecology

By

Laila Ibrahim Eldesoky

M. B., B. C. H.

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Register in
El-Tawfik Hospital



Supervisors

Prof. Dr. Ibrahim Yassin Abou Senna

Prof. of Obstetric and Gynecology,
faculty of medicine, Ain Shams University

Dr. Ali Abdel Halim Shahwan

Ass. Prof. Of Obstetric and Gynecology,
Faculty of medicine, Ain Shams University

Ain Shams University
Faculty of medicine

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First of all Glory to God most high, full of Grace and Mercy, "O mye Lord ! Expand me my breast; show me the straight way and Ease my task for me.

Glory to thee of knowledge; we have none, Save what Thou Hast taught us: in truth is Thou who art Prefect in Knowledge and Wisdom.

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**INTRODUCTION AND AIM
OF THE WORK**

INTRODUCTION

The age of the patient is important in the assessment of medical problems. This is true in obstetrics as in other branches of medicine. There are differences, both maternal and fetal, between the pregnancies of women in the third decade and those of either very young adolescent girls or women over 35. Others have reported the disparate outcomes of pregnancy at the extremes of child-bearing age, such clinical observations have led to the belief that pregnancy in very young as well as the much older women occurs at special risk. However, it is not a simple matter to quantify the dangers of pregnancy attributable solely to the age of the gravida, for there are factors related to age-parity, for example that may in themselves alter gestational results (Israil and Deutschberger, 1964).

As people age there is an increase in systemic diseases such as hypertension and diabetes. If a pregnant woman has these problems, then she should be considered to be at high risk. Of course, that is true, whether she is 25 or 35 years old, these diseases alone put the patient in the high-risk category without consideration of age. More older women have these problems, therefore more older women are going to be at high risk. In that sense older women as a category are at higher risk than younger women. What about the women 35 years and older who do not have these medical problems? Are they at high risk because of age alone? Many of the previous

studies have not tried to isolate age as a risk factor, Stein (1983) and Grimes and Gross (1981) have not found that age alone is a risk factor for significant perinatal problems. In Kirz study (1986), he found that the healthy gravid women (both parous and nulliparous) did not demonstrate an increase in the development of pregnancy complications. These include preterm labor, post-datism, preterm rupture of membranes, meconium stained liquor, third-trimester bleeding, hydramnios, and problems with weight gain or urinary tract infections.

The effects of increasing maternal age on pregnancy outcome remain an unresolved issue for several reasons. Israel and Deutschberger (1964) and Koren et al., (1963) have arrived at discordant conclusions, perhaps because advanced maternal age is associated with many other variables in patient characteristics. The older patients vary with respect to parity and the presence or absence of underlying medical disorders.

This group is also socially diverse, with many women delaying child bearing because of professional or personal goals (Adms et al., 1982).

It seems possible that deliberate alterations in the pattern and content of obstetric care, which take into account these specific complications could have a favorable impact on the maternal and fetal outcome (Lehman and Chism, 1987).

Aim of the Work

The aim of this study is to asses the infleunce of age on obstetric complications and outcome of pregnancy, in the practice of obstetrics at Ain Shams University Maternity hospital, between the second half of December, 1987 and 30 of June, 1988.

REVIEW OF LITERATURE

Review Of Literature

AGE AND FERTILITY

Premenarcheal pregnancy is a fascinating condision. A child aged 5.5 years, thought to be the youngest mother in the world, was deliverd in Peru by caeserean section. The baby weight was 2.7 kg.

A German child aged 6.5 years was delivered of a 3 kg child normaly. Twins have been delivered to a girl aged 7.5 years in Barazil and a 7 - year - old Mohammedan girl is described who was delivered of a child weighing 2kg by caesarean section.

The youngest Englinsh mother is reported to have been 9 years old at the time of delivery (Dewhurst 1963, and Huffman 1968).

Bender (1969) describes an uneventful pregnancy in a girl aged 13 years 8 months. Labour lasted 18 hours and 50 minutes, and was terminated by a Compossionate low forceps delivery under general anaesthesia followed by a necessary manual removal of the placenta.

Her baby weighed 3.7 kg. Reference is made by James (1969) to a former case report in which a girl aged little more than 11 years, ultimatly had spontaneous delivery after normal pregnancy and labour.

Both james (1969) and Bender (1969) refer to the minimal psychological effects of pregnancy in the pre-menarcheal age group and comment upon medicolegal aspects

of this kind of problem they also reemphasize the tendency for these very young mothers to be free from obstetrical problems. The caesarean section rate seems to be particularly low.

Sarah, the wife of Abraham, (Peace be upon him) was many years post menopausal when she born Isaac, at the age of 91 years. No other conception at such advanced age can be documented (Nelson and Sons, 1952).

It is known that fertility declines with advancing age. This decline in the spontaneous pregnancy rate with advancing age may be related to progressive ovulatory dysfunction, and the ultimate lack of function is primarily caused by exhaustion of normal oocytes in the ovary. It is not clear whether aging of the uterus and tubes is also associated with reproductive failure (Tulandi, et al., 1981).

The reduction in the fertility of women past a certain age is generally accepted fact. The fertility is maximum at about age 24. Between the ages of 24-30 there is a slight decline and after the age of 30 the decline is quite rapid but is more marked after the age 35. (Younis and Abdel Moneim., 1989).

In elderly primigravidae a pregnancy following a period of involuntary infertility carries no significant disadvantage in terms of obstetric complications and outcome. Given the important effects of advanced maternal

age on the outcome of first pregnancies without a history of infertility, it may be reassuring to subfertile women reaching age of 35, that their subfertility appears to cause no added risk. (Tuck et al., 1988).

Advanced maternal age:

The definition of advanced maternal age in the obstetric literature is variable. Stein (1983) and Grimes (1981) have designated a lower limit of 35 years as the definition, whereas Adams (1982) and Koren (1963) have used 40 years, and Stanton (1956) and Kushner (1974) have indicated that > 44 years represents advanced maternal age. Regardless of the specific age definition, pregnancies in women of advanced maternal age are considered by many to be high risk. In the eighteenth and nineteenth century this categorization was due to concern for the mother. At present the designation of high risk refers to the fetus/neonate (Kirz et al., 1985).

The nulliparous woman of advanced maternal age deserves special comment. The designation "elderly primigravida" is used extensively in the obstetric literature and by health care providers. The term was defined in 1958 by the council of International federation of obstetrics as "one aged 35 or more at first delivery". (Kirz et al., 1985).

The old primigravida is usually facing both medical problems of that age in addition to obstetric complications. During the forties women usually suffer more from chronic hypertension, renal disease, gall bladder disease and osteoporosis. Their unhealthy vasculature due to atherosclerosis may lead to placental insufficiency. (Cohen et al., 1980).

The pathphysiology of advanced maternal age:

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 feedback 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 onwards, 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 still not clear whether aging of the reproductive organs causes reproductive failure. A study of postmenopausal women showed that initially 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 morphologic alterations. (Wayne et al., 1979).

Woessner (1963) was unable to detect changes in the net weight of the uterus or its collagen or elastin content in women between age 30 and menopause.

Older women has sclerotic lesions in the myometrial arteries that might limit blood flow. There 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 arteries' media. Collagen progressively replaced normal muscle in the walls of myometrial arteries as non gravid, normotensive mothers aged. Almost every segment of every artery was affected to some degree after age of 39. 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 the previously described lesions increased from 11% at age of 17 to 19 years to 37% at 20 to 29 years, 61% at 30 to 39, and 83% after age 39 ($P < 0.001$). These vascular changes with age were not significantly changed when the data were stratified by parity (Naye, 1983).