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ثبكة المعلومات الجامعية





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ثبكة المعلومات الجامعية







# The effects of oophorectomy in the premenopausal period on the dehydroepiandrosterone & dehydroepiandrosterone sulphate levels

#### Thesis

Submitted to the Faculty of Medicine
Alexandria University
In partial fulfillment of the degree of
Master of Obstetric and Gynaecology

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B 9118 بسم الله الرحمن الرحيم

" سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم "

صدق الله العظيم

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#### Aknowledgement

I am greatly indebted to Prof. Dr. Emad Darwish, Professor of Obstetrics and Gynaecology, faculty of medicine, University of Alexandria, who suggested the subject and supervised the work althrough its stages. To him I express my deepest gratitude.

I would like to express my profound gratitude to Prof. Dr. Mohamed Rokka, Professor of Obstetrics and Gynaecology, Faculty of Medicine, University of Alexandria, for his unlimited help, keen supervision, and encouragement that helped me in every in step during the accomplishment of this work.

I am deeply grateful to Prof. Dr. Salah MArzouk, Professor of Clinical Pathology, faculty of medicine, University of Alexandria, for his continuous encouragement, guidance, cooperation and great support.

Finally, my great appreciation is given to all who shared either practically or morally in the creation of this thesis.

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Arabic summary

#### Introduction

As the human life span has lengthened, the incidence of clinical problems associated with aging has also increased. For the gynaecologist, some of the most common problems associated with aging are those resulting from the endocrinological changes of the menopause. (1)

For any woman, menopause signals the beginning of an era of aging, with diminishing abilities and competence, however, it should and can mark the beginning of a new and promising period of life. (2) Good medical practice dictates that the concerned physician should support the women in a positive outlook for this period of time, which is growing in length and should be increasingly productive and rewarding. (2) At the time when they reach the menopause, most women today are still leading an active life and still have many years to look forward to. Nowadays, we should stress that the menopause is not an illness, but simply something that has to be endured. (3)

Since women at the age of 50 years can expect to live another 30 years, a large minority of female population are without ovarian function and live about one third of their lives after ovarian function ceases. (4)

Menopause is a retrospective diagnosis determined when 6-12 months elapse after the last menses. (5)

#### Age of menopause:

The average age of menopause is 51 years (with a range of 41-59 years). <sup>(6)</sup> The age of menopause does not depend on socioeconomic status, race, geography, parity or body habits. Only in some underdeveloped countries, the mean age of menopause is lower, probably as a result of malnutrition. <sup>(7)</sup> Heavy cigarette smoking also decreases the age of menopause by about two years. <sup>(8)</sup>

In contrast to a decline in the age of menarche during modern times, the age of menopause has not changed significantly since the early Greek days. (9) Figure (1).

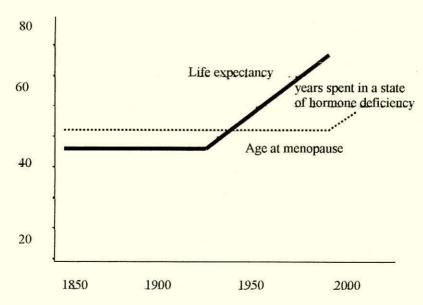


Fig (1): Life expectancy of women in the 19th and 20th centuries. (3)

#### Aetiology and pathogenesis:

There are three types of menopause classified according to the cause:

#### 1- Physiological menopause:

The oocytes responsive to gonadotropins disappear from the ovary and the few remaining oocytes do not respond to gonadotropins. Isolated oocytes can be found in postmenopausal ovaries on very careful histologic inspection. Some of them show a limited degree of development, but most reveal no sign of development. (5)

#### 2- Premature menopause:

This occurs before the expected range of age of natural menopause (before age 40) in less than 1% of women. (10) The cause of premature menopause is unknown, but some specific aetiologies have been reported (e.g. resistant ovary syndrome) (11)

#### 3- Artificial menopause:

It is the permanent cessation of ovarian function brought about by surgical removal of the ovaries or by radiation therapy. Artificial menopause is employed as a treatment for endometriosis and oestrogen sensitive neoplasms of the breast and endometrium. On the other hand,

due to the poor prognosis of ovarian cancer, some gynaecologists recommended oophorectomy for women having pelvic surgery near the time of menopause. It is possible that premature ovarian failure occurs in women who have previously undergone abdominal hysterectomy presumably because the ovarian vasculature has been compromised. (12)

#### Hormonal changes associated with the physiological menopause:

Menopause is the time of hormone deficiency. Following the menopause there are changes in androgen, oestrogen, progesterone and gonadotropin secretion, this occurs because of cessation of ovarian follicular activity.

#### I- Oestrogens:

As the women approach the menopause, the cycle lengths become shorter. (13, 14) This is related to a decrease in the proliferative phase of the cycle. These shorter cycles are associated with normal levels of oestradiol in the early follicular phase, but the concentrations are lower during the late follicular and luteal phase. (13)

As cycles become irregular and the inter-menstrual length longer, vaginal bleeding occurs either at the end of an inadequate luteal phase (rise of progesterone less than 10 ng/ml) or after a rise and fall of oestradiol level without hormonal evidence of ovulation or corpus luteum formation (anovulatory cycles). (13)

Once a woman is postmenopausal, the oestradiol level drops. Most investigators have found the mean level to be approximately 13 pg/ml, which is similar to that found after surgical menopause. The source of this small amount of oestradiol is not established. Direct secretion by the ovary does not appear to contribute significantly since circulating levels and production rates are similar before and after oophorectomy. Adrenal glands are the major source of small amount of oestradiol found in older women. (15)

The circulating level of oesterone is higher than that of oestradiol after the menopause. Most investigators have found that the mean level is 30 pg/ml, but some investigators observed it to be twice that amount. (15) The clearance rate of oesterone is 20 % lower in postmenopausal women.