

**Free Communication - Saturday****F 21 (Ratanakosin)****Effect of Postmenopausal Hormone Replacement Therapy on the Impedance of Internal Carotid Artery**

**Bai Wen-Pei\*, Zheng Shu-Rong\*, Yang Xin\*, Chen Shu-Ling\*, Li Hui\***

**Objective:** To determine the effects of postmenopausal hormone replacement therapy on the impedance of internal carotid artery of Chinese postmenopausal women.

**Method:** Thirty-six women were recruited who were 40~65 years old, menopause more than six months, serum estradiol <20 pg/ml. They did not have cardiovascular disease. Patients were separated 2:1 randomly into control and experimental groups. 0.625 mg conjugated estrogen used as control drug, 1 mg domestic estradiol valerate was studied. 4 mg medroxyprogesterone acetate was added sequentially. Pulsatility index (PI), resistance index (RI) and S/D ratios were measured with Doppler before and after treatment (9 week). Serum estradiol and FSH were measured at the same time.

**Results:** Both of the two drugs reduced PI, RI and S/D ratio of internal carotid artery of postmenopausal women. Serum estradiol was enhanced to the early follicle phase level. There was no significant difference between two groups.

**Conclusion:** Postmenopausal hormone replacement therapy reduces the impedance of internal carotid artery.

**MeSH:** Hormone replacement therapy, pulsatility index, resistance index, S/D ratio, internal carotid artery.

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**Free Communication - Saturday****F 22 (Ratanakosin)****Risk Factors of Osteoporosis in Thai Women Attending Menopause Clinic at Chulalongkorn Hospital**

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To assess risk factors of osteoporosis, 331 women attending menopause clinic at Chulalongkorn Hospital from January-September, 1995 were recruited for the analysis. The age range of studied population was 29-75 years, 26.9% were premenopausal and 73.1% were postmenopausal. Bone mass measurement was performed at lumbar spine (L1-4) and hip utilizing dual energy X-ray absorptiometer, Hologic QDR-2000. Information regarding menstrual and surgical history, dietary intake, educational background, parity, income, body mass index (BMI), alcohol intake, exercise and smoking were obtained. The results revealed that no variables is associated when focused at the spine and at femoral neck in premenopausal group. Age >60 years (OR = 3.52 (1.51-8.21), Low BMI (OR = 2.5 (1.42-4.55)), High BMI (OR = 0.32 (0.16-0.64) are associated when focused at the femoral neck in postmenopause group. Age >60 years (OR = 3.52 (1.51-8.20), Years since menopause >15 years (OR = 4.03 (1.63-9.92), Low BMI (OR = 2.04 (1.08-3.71) and high BMI (OR = 0.41 (0.18-0.92)) are associated when focused at the spine in postmenopause group.

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**Free Communication - Saturday****F 23 (Ratanakosin)****Coagulation Parameters Under Continuous-Combined HRT in Comparison with Placebo**

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Hormone replacement therapy (HRT) is known to influence parameters of coagulation and fibrinolysis. The aim of the present study was to investigate the influence of estradiol valerate 2 mg continuously combined with 3 mg of dienogest (17 $\alpha$ -cyanomethyl-17 $\beta$ -hydroxy-4,9-estradien-3-one) on relevant parameters in a double-blind, placebo-controlled, randomized, prospective trial. Sixty nine postmenopausal women (34 on hormones, 35 on placebo) were treated for 6 months and blood samples for analysis of the parameters of hemostasis were obtained before treatment and at the end of the treatment cycles 3 and 6. In the HRT group pro-coagulatory parameters were not changed significantly (fibrinogen, prothrombin fragment 1 + 2), or increased slightly (thrombin-antithrombin complex) or even decreased (factor VIIa), whereas in the placebo group these parameters remained unchanged. Anti-coagulatory parameters (antithrombin III, protein S and C activity) did not exhibit any significant change in both groups during the treatment period. Fibrinolytic parameters showed a slight increase (plasminogen, d-dimer) in the women treated with the hormones, whereas t-plasminogen activator and plasminogen inhibitor decreased in the treatment group, but slightly increased in the placebo group. The results demonstrate a balanced influence of the HRT regimen tested on both the procoagulatory and anti-coagulatory system indicating a neutral effect of the hormonal treatment on coagulation and fibrinolysis.

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**Free Communication - Saturday****F 24 (Ratanakosin)****Changes in Body Collagen Found in Skin, Bone, Ligaments and in the Cardiovascular Tissue by Osteoson Skin Thickness (OST) Measurement**

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**Objective:** The aim of the study was to assess the effects of changes in body collagen on skin thickness, on arterial wall and on ligaments with and without hormon replacement therapy.

**Study design:** 830 patients were examined and the results were used to carry out evaluation of the OST-method. Skin thickness was measured by Minhorst-Osteoson®-DC III, a high resolution ultrasonic imaging system. 126 postmenopausal women of the St. Luke's Hospital of Malta were randomly allocated to receive conjugated estrogens or placebo treatment for one year. It was measured the changes of the several layers of the arterial wall. 124 females from the patients and staff of the Rheumaklinik Bad Bramstedt were measured both with a hyperextensometer and Osteoson. Special factors and adverse events were recorded according to an osteoporotic risk score.

**Results:**

1. There is a significant difference between the skin thickness mean values and the frequency distribution of the healthy collective, of individuals who are suspected of getting osteoporosis and who are sick.

2. Significant correlation was found between carotid artery wall thickness and skin thickness. This was particularly so with the media ( $p < 0,001$ ), whereby the intima showed a negative correlation with skin collagen under estrogen treatment.

3. In 144 females with reduced skin thickness an increase in the hyperextension angle in the index finger knuckle joint has been observed in comparison to the controls.

**Conclusions:** The OST-results show a distinct difference of skin thickness of more than 26% between normal and osteoporosis collective. Estrogen therapy has not only a positive effect on skin thickness, but also of the wall thickness of the carotid. The results provide further evidence of estrogens in preventing skin aging and in the prevention of the cardiovascular and osteoporotic risk.

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**Free Communication - Saturday****F 25 (Ratanakosin)****Urogenital and Vasomotor Symptoms in Relation to Menopausal Status and the Use of HRT in Healthy Women During Transition to Menopause****Britt-Marie Landgren\*, Barbro Larson\*, Aila Collins\***

**Objective:** To investigate the relationship between climacteric status, hormonal levels, vasomotor symptoms, vaginal dryness and urinary incontinence in a cohort of healthy women during transition to menopause, and further to evaluate the effects of hormone replacement therapy on these symptoms.

**Methods:** 147 women were followed for four years during transition to menopause. They were all 49 years old when entering the study. Each annual visit included a general health screening, gynecological examination and blood sampling. The subjects were questioned about sociodemographic background, obstetric and gynecological history and they kept bleeding diary cards.

**Results:** Urinary incontinence was reported by 57% at the first visit and decreased to 34% at the last visit. No correlation to hormonal levels or to the use of HRT was seen, but parity was significantly ( $p=0.05$ ) correlated to urinary incontinence. Vaginal dryness occurred in 37% at the first visit. One third of the premenopausal women experienced vaginal dryness. Vasomotor symptoms were reported by 56% at the first visit and were associated with high levels of FSH and LH ( $p<0.001$  and  $p=0.002$ , respectively). One third of premenopausal women reported on vasomotor symptoms. Hormone replacement therapy did not relieve hot flushes in these women.

**Conclusions:** Urogenital and vasomotor symptoms experienced by premenopausal women do not seem to be relieved by hormone replacement therapy.

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**Free Communication - Saturday****F 26 (Thonburi)****Biological Availability of Vaginal Administered Estradiol****J. Donát\***

Objective: To evaluate the influence of vaginal estradiol administration on the serum levels of gonadotropins and estrogens.

Methodology: Fourteen postmenopausal women received vaginal estradiol (Vagifem) 25 ug daily during the period of 28 days and 25 ug every other day during 12 months. Before treatment and after 7, 14, 21 and 28 days of the estradiol administration serum levels of LH, FSH, E2 and E1 were measured and in the period of 6 and 12 months of the therapy the same hormonal parameters were evaluated.

Results: In case of estradiol vaginal administration estradiol serum levels increased statistically significant in 2 weeks of the treatment. The character of serum E2 levels in the long term profile can indicate a possibility to profit this kind of estrogen replacement therapy for prevention and treatment of the organic and metabolic estrogen-deficiency syndrome.

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**Free Communication - Saturday****F 27 (Thonburi)****Changes of Bone Markers in Association with Ovarian Function**

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The aim of this analysis was to assess bone turnover status of women in her reproductive period, perimenopause and postmenopause. All the women did not undergo hysterectomy and/or oophorectomy. None had any chronic medical illness or received any hormone regimen within the previous one year. Fasting serum and second void urine samples were collected at 08.00-10.00 am. for measurement of osteocalcin (serum marker of bone formation) and type I collagen degradation product (urinary markers of bone resorption). An enzyme-linked immunosorbent assay (ELISA) for measurement of the two markers was conducted. For serum osteocalcin, the measuring range was 4.7-75 ng/ml. Between-run and within-run coefficient of variation were 4.74% and 4.27% respectively. For urinary type I collagen degradation product, the measuring range was 100-6,750 µg/L. Between-run and within-run coefficient of variation were 6.60% and 4.68% respectively. ANOVA and nonparametric test were used where it was appropriated.

Of all 218 women recruited from October 1995 to July 1997, the mean age of the women in the reproductive period (N=62), perimenopause (N=25) and postmenopause (N=129) were 32.94, 48.64 and 52.51 years, respectively. The median serum osteocalcin were 16.40, 16.80 and 18.90 ng/ml, respectively ( $P>0.05$ ). The median corrected urinary type I collagen degradation product were 109.41, 157.69 and 304.23 µg/µmol creatinine, respectively ( $P<0.05$ ). Considering the level of these bone markers in women in her reproductive period, perimenopause and those who entered menopause for 1, 2, 3, 4, 5 and  $\geq 6$  years, the median serum level of osteocalcin were 16.40, 16.80, 16.35, 19.90, 21.05, 20.40, 17.70 and 17.40 ng/ml, respectively ( $P<0.05$ ). The median corrected urinary type I collagen degradation product were 109.41, 157.69, 278.17, 324.80, 365.57, 309.70, 264.91 and 225.71 µg/µmol creatinine, respectively ( $P<0.05$ ). In conclusion, this analysis showed that these two markers of bone turnover seemed to be higher in postmenopausal women even though only type I collagen degradation product showed statistical significant increase. In addition, it was found that these values were highest in the third year of menopause, after which it showed downward trend.

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**Free Communication - Saturday****F 28 (Thonburi)****Menopausal Disorders Associated with Supraphysiological Plasma Estradiol Concentrations in Perimenopausal Women****P. Frigo\*, Christine Lang\*, C. Worda\*, M. Metka\*, J. Huber\***

Study aim: The aim of our prospective, randomized study was to analyze a possible association of supraphysiological estradiol (E 2) plasma levels with menopausal disorders.

Patients and methods: A collective of 166 menopausal women (group I) with E 2 plasma levels > 200 pg/ml were compared with 150 women with E 2 levels < 200 pg/ml (group II).

A comparative analysis of subjective disorders within both groups was carried out by means of Kuppermans Index. Statistical evaluation was done by ANOVA-analysis.

Results: Especially weight problems and headaches occurred significantly higher in group I ( $p < 0.001$ ). Flashes, Parasthesia and fatigue occurred in both groups and showed no statistically significant difference.

Conclusion: Summarizing up it seems that in menopausal women with hyperestrogenemia similar disorders occur more than in patients which suffer under hypoestrogenemia. A quantification of estradiol should therefore be done before starting HRT.

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**Free Communication - Saturday****F 29 (Thonburi)****New Trends in HRT****Ge Qin-sheng\***

The course of menopause extends a long period of more than 30 years. It starts from disturbances of ovarian cycle around 40 years old, go through menopause around 50 and followed by a long postmenopausal period to nearly the end of life. Different periods and different individuals present different clinical problems or a combination of different problems. They should be dealt with individually to obtain the most effective results. The following principles will guide the physician in the management of postmenopausal HRT.

1. Small doses of HRT: It is now generally accepted that small doses of HRT gives similar results and less side effects. The most common side effect with bigger doses of estrogen causes more frequent vaginal bleeding that effects most the compliance.

2. Continuous or cyclic: Animal experiments using maturation index (MI) and proliferating cell nuclear antigen (PCNA) as markers showed that continuous use of estrogen and progesterone suppress the endometrial proliferation much better than the cyclic use and also using much lower dosage of progesterone than the cyclic use. Case control study and clinical use with Klinogest also showed that continuous use of estrogen and progesterone showed less endometrial proliferation and malignant change than the cyclic use.

3. Optimal individualization: using the most suitable drug for each symptom or disease will give the best relief of symptoms or prevention and improvement in the menopause related diseases such as osteoporosis, cardiovascular diseases or Alzheimer's disease.

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**Free Communication - Saturday****F 30 (Thonburi)****Efficacy and Safety of Phytomedicines with Particular Reference to *Cimicifuga racemosa*****E. Liske\*, P. Wustenberg\***

Most herbs used in phytomedicines have been known for quite some time. Nowadays, high medical and scientific standards in clinical studies with particular indications have proven the efficacy and tolerability of phytomedicines. Extracts of *Cimicifuga racemosa* (C.R., black cohosh) have a historic reputation as herbal remedy in gynecopathy. Clinical research of C.R. mono-preparations (i.e. Remifemin®) has been mainly concentrated on menopausal women. Randomised, double-blind and (placebo-) controlled clinical studies with menopausal patients show the therapeutical efficacy of C.R. together with a statistically significant ( $p < 0.001$ ) reduction in the Kupperman Menopause Index in comparison to i.e. placebo. After a 3 (6) months treatment up to 60% and 75% of patients reached in a menopausal score below 15, which is considered a therapeutical success. However, the efficacy of C.R. cannot be attributed to an estrogenic effect as had been postulated earlier. In recent humanpharmacological investigations no LH-suppression and estrogenic influences on vaginal cytology parameters could be detected. These results coincide with recently published results showing no estrogenic effects of C.R. on vagina and uterus in mice and rats (Einer-Jensen et al., Maturitas 25, 1996: 149-153). Clinical investigations have supported extracts of C.R. with a positive benefit-risk-ratio for the treatment of neurovegetative menopausal ailments.

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**Free Communication - Saturday****F 31 (Ayuthya)****The Effects of Hormone Replacement Therapy in Postmenopausal Osteoporosis. Findings of a Regional Osteoporosis Program in Hungary****A. Balogh\*, P. Bettembuk\*, A. Jakab\*, G. Bacskó\***

The aim of the study was to assess the effects of HRT on bone metabolism and density and the compliance of women with postmenopausal osteoporosis (PMOP) to HRT.

Methods: Clinical assessment, diet and lifestyle records, DXA bone mineral density (BMD), laboratory tests of Ca and bone metabolism, and X-rays. Statistical analysis was made to qualify efficacy of treatment on BMD and in part on bone metabolic markers (osteocalcin, BsAP, u-X-links). The effect on these parameters was calculated by comparing baseline to 1 and 2 year data by *t*-test. ANOVA was used to assess the effects of interfering factors (BMI, Ca intake, baseline estradiol, initial BMD and indices of bone turnover). Patients (total 6,896) were aged 44 to 78 years. Of them 67% (4,620) had BMD values below -1 T-score, 85% (3,929) had primary osteopenia or OP by the WHO criteria. Secondary OP was excluded by history and lab tests. Therapy was recommended when T scores were below -1.5 (high turnover) or -2 at any skeletal site. A total of 1,976 patients were offered therapy, of them 1,403 (71%) Ca + combined HRT as primary treatment. Its initial acceptance was 54% (758 pat.), 82% preferred combined oral, 18% transdermal estrogen-progestin).

The results showed an average 2.98 and 3.11 per cent gain in BMD by one and two years, resp. Laboratory tests, especially changes in the values of biochemical markers offered an early indication of efficiency of HRT, and gave proof of compliance. Continuation was 69 and 56% at 1 and 2 year, resp. Same of HRT for non-OP patients were 55 and 42%.

Conclusion: Our results confirm the antiresorptive efficacy of HRT in a group of 758 PMOP patients. A better compliance was achieved in this group compared to non-osteoporotic postmenopausal women.

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**Free Communication - Saturday****F 32 (Ayuthya)****Bone Mineral Density : A Comparison Between Natural and Surgically Induced Menopause**

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**Objective :** To compare bone mineral density between natural and surgically induced menopause by dual energy X-ray absorptiometry (DEXA).

**Methods :** The study group included 411 women, who were in menopause for at least 6 months. Of all patients, 309 became menopausal naturally and 102 surgically. Bone mineral density was assessed at distal radius, femoral neck, and lumbar spine by DEXA in both groups.

**Results:** The characteristics of the patients were similar in both groups. Bone mineral density in the surgically induced menopausal women was lower than in the natural menopausal women at distal radius, femoral neck, and lumbar spine. There was statistically significant ( $P < 0.05$ ).

**Conclusion:** Bone mineral density in surgically induced menopause is lower than in natural menopause. In surgically induced menopausal women, hormonal replacement therapy should not be delayed.

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## Free Communication - Saturday

### F 33 (Ayuthya)

## Changes of Bone Mineral Density and Hormonal Parameters in Amenorrheic Women During Hemodialysis Treated with Estracomb (Novartis)

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A disturbances of hypothalamic-pituitary-ovarian axis is a common feature of women with severe chronic renal failure not reversed by hemodialysis. This patients have frequently decreased bone mineral density with low 17  $\beta$ -estradiol serum levels and elevated prolactin concentrations. The aim of this study was estimation of Estracomb (Novartis) treatment in amenorrheic, hemodialyzed women on bone mineral density, as well 17  $\beta$ -estradiol and prolactin levels. Estracomb (Novartis) was used in cyclical-continous regimen for 12 months in 10 amenorreic hemodialyzed women aged 22-45 years (mean  $39,6 \pm 8,29$  years). The assessment of mineral bone density of  $L_2 - L_4$  region was performed with DEXA-Lunar densitometer for all patients at the beginning and after 12 months of treatment. Serum concentrations of 17  $\beta$ -estradiol and prolactin was measured at the same time by fluorescence immunoassay using commercially available kits. The results of treatment are shown in the table below:

	Before treatment	After treatment
Bone mineral density $g/cm^3$	$0,896 \pm 0,062$	$0,968 \pm 0,05$
Z-score	$-2,54 \pm 0,52$	$-1,93 \pm 0,57$
17 $\beta$ -estradiol levels pg/ml	$20,47 \pm 11,69$	$50,27 \pm 21,15$
Prolactin levels $\mu IU/ml$	$1456,79 \pm 1845,13$	$690,8 \pm 116,44$

Local adverse effects were observed temporaly as mild erythema in 3 patients. The treatment with Estracomb (Novartis) amenorrheic, hemodialyzed womed is effective and good tolerated. All patients have had regular menses. After 12 months of treatment BMD and 17  $\beta$ -estradiol levels was significantly increased. Prolactin concentrations was decreased. Estracomb (Novartis) in amenorrheic, hemodialyzed women is a successful treatment of bone mineral density and of normalization hormonal disturbances.

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**Free Communication - Saturday****F 34 (Ayuthya)****Histological Changes of Endometrium in Postmenopausal Women Treated with Menorest****St. Radowski\*, B. Horoszk-Husiatynska\*, K. Skórzewska\*, R. Koczorowski\***

Menorest (Rhone-Poulenc Rorer) is a transdermal patch in which 17  $\beta$ -estradiol is dispersed as a micronized suspension in an adhesively thin matrix. This system reduces the size and thickness of the patch. There is a linear relationship between the dose of estradiol administered and the plasma concentration of estradiol. Menorest is available in sizes providing 37.5; 75 or 100  $\mu\text{g/day}$  17  $\beta$ -estradiol. The purpose of our study was estimation of Menorest 75 (Rhone - Poulenc Rorer) influence on an endometrium. 24 healthy postmenopausal women with moderate to severe climacteric symptoms aged between 49 and 62 years (mean  $54.59 \pm 2.92$  years) volunteered to participate in the study. Postmenopausal status of all patients was confirmed by amenorrhea for 6 months at least, 17  $\beta$ -estradiol levels  $< 30 \text{ pg/ml}$  and FSH levels  $> 20 \text{ IU/ml}$ . All participants had to have a vaginal smear test, mammography, transvaginal ultrasonography (endometrial thickness  $\leq 5.0 \text{ mm}$ ), aspiration curettage of endometrium in screening period and after 1 year of treatment for histologic evaluation. Patients were treated for 12 months continuously twice-weekly transdermal Menorest 75 (75  $\mu\text{g/day}$ ) combined with cyclic oral Duphaston (20 mg/day) for 12 days of every 28-day cycle. Histological pictures of endometrium before treatment showed atrophic 23 (95.8%), no material 1 (4.2%) and after treatment histopathology results change: atrophic 1 (4.2%), secretory 22 (91.6%), endometrial polyp 1 (4.2%). Applied combination treatment Menorest/Duphaston is safety for endometrium. Endometrial thickness in transvaginal sonography change from  $3 \pm 1.12 \text{ mm}$  before treatment to  $6.88 \pm 2.15 \text{ mm}$  ( $p < 0.02$ ) after one year medication. Local adverse effects were observed temporarily as mild erythema in 3 participants.

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## Free Communication - Saturday

### F 35 (Ayuthya)

## Monitoring of Hormonal Replacement Treatment in Elderly Female Patients

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The symptoms of lack of oestrogens may appear very soon after cessation of menstruation as the menopausal syndrome or later as higher morbidity of cardiovascular diseases or osteoporosis. Some of the patients badly tolerate the oral preparations of hormones or patches. For them intramuscular depot forms of oestrogens are the only way of treatment. We observed 17 patients with confirmed on densitometry (in  $L_2-L_4$  region; DEXA) osteoporosis treated with GYNODIAN - DEPOT® (SCHERING AG) cartridges containing 4 mg estradiol valerate and 200 mg prasteronenantate, given intramuscularly in 4 week intervals.

Before treatment and during the time of each visit the blood sample was taken to evaluate the plasma concentration of FSH and estradiol. (immunofluorometric assay; DELFIA-LKB unit). Also The European Dietary Calcium Intake Questionnaire and Green's Menopausal Index were filled. Statistical analysis was performed with usage of Student's *t*-test. Mean age of patients was  $63.53 \pm 3.60$  ys (from 60 to 73).

$\bar{x} \pm SD$	Start of therapy	6th month
E2 (nmol/ml)	$0.038 \pm 0.040$	$0.110 \pm 0.42^*$
FSH (mIU/ml)	$74.305 \pm 26.017$	$42.375 \pm 22.987^*$
Green's Index (points)	$21.41 \pm 8.02$	$14.28 \pm 7.19^{**}$
Calcium Dietary Intake (mg/24h)	$843.881 \pm 325.707$	$988.767 \pm 388.961$

\* statistically significant ( $p < 0.05$ ) \*\* statistically significant to FSH and E2

1. GYNODIAN - DEPOT® (SCHERING AG) allows to achieve effective for treatment of menopausal syndrome plasma concentration of E2.
2. Green's Menopausal Index high statistically significant correlate with plasma concentration of measured hormones.
3. The calcium supplementation is required during treatment of postmenopausal osteoporosis.

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**Free Communication - Saturday****F 36 (Ayuthya)****Transcultural Understanding of Menopause****C. A. Morse\*, S. Kristy\***

All human experience is idiosyncratic in terms of evaluations, modes of expression and reporting. This idiosyncrasy is shaped by familial norms and bound within a culture. Culture exerts continuous influences on the everyday life, values, aspirations and judgments of people. Thus it is axiomatic that culture not only shapes the experience and expression of change in health states, but also determines the evaluation and mode of expressing symptoms, the pattern of care-seeking behaviors, and the response to treatments. Yet in western medicine, culturally relevant information and perspectives are frequently trivialized or regarded as of minor importance in the formulation of scientific biomedical models, further, cultural realities may be ignored. Contemporary clinical practice perpetuates a reductionist process by espousing mainly an empiricist model of clinical reasoning, whereby all symptoms are assumed to reflect disordered somatic factors while ignoring the individual's interpretive semantic human experience. Women's health within western societies is similarly trivialized by reduction attributed to a discrete set of biochemical-based disorders. The broader socio-cultural frameworks, within which each woman's health is experienced by her, are rarely accorded due regard for their effects on deep personal meanings. From this perspective, changes in health and well-being should be seen as not nearly a reflection of disease processes but also of differential selective attending and evaluation. In essence, all clinical practice is inherently interpretive, yet exclusive concern is given to biophysical aspects which diminish care. In order to achieve a meaning-centered approach, Good and Good (1980) proposed paying careful attention to the complainant's presentation of their health status by considering and evaluating complaints and descriptions within the client's expressed idioms. This process is of paramount importance particularly when evaluating similar sensations or experiences in people from different backgrounds. This approach is considered through application to an important life-change event, that of menopause.

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