

334 A study for the neuro-vascular(N.V.) mechanisms of Hot Flushes(H.F.) in climacterium assessed by the Acceleration Pletysmograph(A.P.) and Thermography(T.G.). M.Shioda, T.Iguchi, K.Murai, S.Tsunoda, Y.Takeda, Dept. Obst. and Gynec., Tokyo Women's Medical College, Tokyo.

In order to clarify N.V. response and the mechanisms of Hot Flushes (H.F.) in climacterium, we investigated the peripheral circulation (A) young (aged 26 to 36)(n=10) (B) middle with H.F.(aged 42 to 57)(n=10) (C) middle without H.F.(aged 41 to 63)(n=10). The bilateral finger tips' circulation and the bilateral palms and face skin temperature(APr, AP1, Tr, Tl, Tf) were measured every 2 min by A.P. and T.G. after the cold stress test(C.S.T.) (4°C, 1 min) on the left hand up to wrist. Basal APr, AP1 indexes were decreased according to aging. Basal Tr, Tl and Tf were higher in the middle with H.F. than in other 2 groups. N.V. response to C.S.T. via central nervous system was observed in the opposite side of hand. The recovery rate of APr index and Tr after C.S.T. were greater in the middle without H.F. than in other groups. Tf was the lowest in the middle with H.F.. Recovery time of the APr index and Tf were prolonged in the middle with H.F.. Aging may relate to the decrease of peripheral circulatory efficacy. The poor response and poor recovery of the N.V. regulation may be one of the features in H.F. groups.

335 Influence of aging, lipoprotein metabolism and sex to muscle energy dynamics and endothelial cell function. K.Murai, T.Iguchi, S.Tsunoda, M.Shioda, M.Nakabayashi*, Y.Takeda, Dept. Obst. and Gynec., *Maternal and Perinatal Center, Tokyo Women's Medical College, Tokyo.

The influence of aging, sex, lipoprotein metabolism(LM) on peripheral circulation and endothelial cell function(ECF) was studied in 44 women and 48 men. The peripheral circulation efficacy(PCE) was estimated by the recovery rate of the intracellular pH and content of phosphocreatine(Pcr) and inorganic phosphate(Pi). These 3 components were measured by ^{31}P -MRS with occluding venous return of a gripping hand. ECF was estimated by tissue plasminogen activator(tPA) and thrombomodulin(TM) using ELISA. PCE was lower in the group the abnormal LM. In the group of normal LM, tPA and TM were higher in men and their response to the loading was higher in women to show the sex difference. In the group of abnormal LM, ECF was not be manifest sex difference, and its response to the loading was accelerated exclusively in the aged men. The results above suggested the relationship among LM, PCE and ECF.

336 Mild hypertension in perimenopause. K.Furutani, K.Hamada, Y.Takeda, T.Nakahashi, S.Matsuura, S.Muneta*, E.Murakami*, Dept. Obst. and Gynec., Ehime Univ. Sch. Med., Ehime,* Dept. Medicine 2., Ehime Univ. Sch. Med., Ehime.

Mild hypertension in perimenopause has been frequently observed. Its relationship with sex steroid hormone is suggested, however, its pathogenesis has not yet been well known. Aortic pulse wave velocity (PWV), isometric handgrip exercise test (HGT), mental arithmetic test (MAT) and baroreceptor reflex sensitivity (BRS) were examined in controlled normal women (CNW, N=15), essential hypertensive women (EHW, N=12), perimenopausal hypertensive women (PHW, N=6) and bilaterally oophorectomized women (OxHW, N=10). SBP elevation (Δ SBP) and DBP elevation (Δ DBP) in MAT were significantly different in order of PHW > OxHW > EHW > CNW. BRS was significantly different in order of CNW > EHW > PHW \approx OxHW. Δ SBP and Δ DBP in MAT were significantly correlated with BRS (Δ SBP; $y = 52.3707 - 3.9212x$, $p < 0.05$, Δ DBP; $y = 33.0266 - 2.4820x$, $p < 0.05$). BRS was significantly correlated with intervals after oophorectomy ($y = 3.6868 + 0.3166x$, $p < 0.05$). Premenopausal therapy significantly improved BRS and BP. From these results, it is suggested that mild hypertension in perimenopause is closely related with sex steroid hormone.