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LETTER TO THE EDITOR

BASAL AUTONOMIC FUNCTIONS IN MALES AND FEMALES

Sir,

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The study was carried out to have a baseline data of autonomic functions in the two sexes. Also different age groups were chosen in both sexes to compare and delineate if any differences existed in different decades in both the sexes. In the females, it is also important to keep in mind the phase of the menstrual cycle while these tests are being performed as certain differences have been noted in the pre-menstrual and post-menstrual phases (1).

The present study was carried out in healthy males and females (post-menstrual phase) in the age groups of 21–30 years, 31–40 years, 41–50 years. The number of subjects in each group both for males and females was ten. The tests were performed on a polyrite–8–Medicare system at a comfortable environmental temperature of 25–28°C. The subjects were rested for half an hour and it was ensured that the last meal had been taken 6 hours before the test so as to provide the basal conditions as far as possible. The various tests performed included :

(i) Resting heart rate (RHR), (ii) Blood Pressure (B.P.) : Systolic and diastolic, (iii) Electrocardiogram (ECG), (iv) S/L Ratio. S/L Ratio was calculated by taking the longest R–R interval during 5 beats before lying down/shortest R–R interval during 10 beats after lying down (2), (v) Galvanic skin Resistance (GSR).

The results are indicated in Table I in three different decades in the two sexes.

From the present study it appears that even in the same sex differences in the

TABLE I : Show the various parameters in males and females in different age group.

(Age group) n=10		*Sex*	*RHR (Min)*	*BP (mm Hg) Systolic*	*Diastolic*	*S/L Ratio*	*GSR (K-CHMS)*
I	21–30 yrs	M	69.2±2.06**	127.8±2.4**	71.6±1.8*	1.57±.08**	133.6±1.56**
	21–30 yrs	F	82±1.08**	108±1.94**	67±1.30**	1.22±.09	158±1.90**
II	31–40 yrs	M	70.83±3.19	125.6±2.16	78.3±2.46	1.42±.05	113.66±1.22
	31–40 yrs	F	79±1.8	104±2.02	70±1.9	1.28±.06	144.75±1.6
III	41–50 yrs	M	69.3±1.90	128±2.06	83.2±1.45*	1.51±.07**	106±1.30**
	41–50 yrs	F	73±1.06*	121±2.4*	75±1.5	1.21±.04**	150±1.45**

*Statistically significant

autonomic functions can be seen in different age groups especially in the higher age group which is probably due to alteration in baroreceptor responsiveness with ageing as well as increase in circulating levels of vasoconstrictive hormones (3). In males, there is a significant increase ($P<0.5$) in diastolic blood pressure and significant decrease ($P<0.05$) in GSR, indicative of increased sympathetic activity (4). Increase in the sympathetic adrenergic drive along with certain other factors are the probable cause of this increase (3). In case of females, there is a decrease in RHR ($P<.05$) and a significant increase ($P<.05$) in B.P in the higher age group.

The comparative results of similar age groups in the two sexes show significant difference ($P<.05$) in RHR, B.P. (especially systolic), S/L ratio as well as GSR in the younger age group, while in the higher age group the significant differences ($P<.001$) are seen mainly in the S/L ratio and GSR. Age and sex related changes in some of the autonomic functions have also been reported by Chu-Ts et al (5). Also a gradual decline in parasympathetic function has been reported in the elderly (6). However, what finally determines the overall pattern of autonomic functions is the balance between the sympathetic and parasympathetic components.

Although it is difficult to generalise the results on the basis of above study alone as the number of subjects are few and hence further work is necessary to get a more definitive answer yet there is enough evidence to conclude that sex and age do have an influence on the autonomic functions.

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