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COLLECTION AND ANALYSIS OF PARAMETERS DRAWN FROM CARDIOVASCULAR SYSTEM IN HYPERTENSIVE PATIENTS DURING SEXUAL ACTIVITY

Xiaoyan Huo *Cardiology Department, First Affiliated Hospital Shantou University Medical College, Shantou, Guangdong, China*

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Objective To study the response of cardiovascular parameters during sexual activity and analyse the cardiovascular effect of sexual activity in hypertensives as part of the study 'Cardiovascular Effect of Sexual Activity in Hypertensive Patients' and analyse the cardiovascular effect of sexual activity in hypertensives.

Methods Mild or moderate essential hypertensive patients, who are untreated or antihypertensive discontinuation for 2 weeks were enrolled. (1) Cardiovisions was employed for ambulatory monitor during a day with and a day without sexual activity. Sexuality was finished with husband-on-top during the monitoring. All subjects were asked to measure BP at the baseline, beginning of sexual activity, and 20 min, 30 min, 60 min at interval after orgasm. The measuring parameters of SBP, DBP, HR, DP, SDNN and LF/HF on these eight points were obtained using Software CardioVisions. (2) The blood samples were collected via elbow venous at the period of baseline, 10 min, 30 min and 60 min after orgasm at 05:00 to 09:00. Then, plasma ET, ANP, TXB₂ and 6-K-PGF_{1α} were determined by radioimmunoassay. (3) Echocardiographic measurement was performed by Simens Acuson Sequoia 512 to compare the cardiac function between a day with and a day without sexual activity in mild or moderate hypertensive patients. (4) Data were adopted to EpiData software and analysed by software SPSS15.0. Statistical significance level was set at $p < 0.05$.

Results One hundred and fifty-two participants underwent ambulatory monitoring of BP and HR. There were 48 variables obtained. 64.6% of these variables were normal distribution ($p > 0.05$) while 35.4% were not ($p < 0.05$, 25% and $p < 0.001$, 10.4%). One hundred and forty volunteers were included in the laboratory study. Among the experimental variables, all were normal distribution, except for 6-K-PGF_{1α}-S3 ($p = 0.13$). A total of 101 subjects received echocardiographic measurement, which contains 44 variables. Among those variables before sexual activity, 63.7% were normal distribution while 36.3% were not ($p < 0.05$, 27.3% and $p < 0.001$, 9%). Among those variables after sexual activity, 61.5% were normal distribution while 38.5% were not ($p < 0.05$, 31.8% and $p < 0.001$, 6.7%). The results showed that EF and E/E' were different in male group before and after sexual activity, but no difference was shown in female group. There was no difference among all parameters of DTI in both groups.

Conclusions Most of variables collected showed normal distribution after statistical analysis. The method is feasible and data are suitable for analysis. Sexual activity may improve cardiac parameters in male hypertensive patients, but have no impact in female hypertensives.