The alteration in the balance of ovarian hormones might be responsible for these changes.

Conclusion: We concluded that regulation of autonomic tone is modified during menstrual cycle. The menstrual cycle, the alteration in the balance of ovarian hormones might be responsible for these changes.

Aim: A wide spectrum of biological functions is regulated by the cyclic changes in estrogen and progesterone levels during regular menstrual cycle, however little information is available concerning the interaction of these hormones and cardiovascular autonomic function. The aim of this study was to investigate the characteristics of cardiovascular autonomic innervation during the two phases of menstrual cycle by heart rate variability (HRV).

Methods: Forty-three regularly cycling non-obese (BMI: 24±1 kg/m²) women with a mean age of 29±6 years (range 20-38) were enrolled. The power spectral analysis of HRV was used to calculate low frequency component (0.03-0.15 Hz) in absolute (LF) and normalized units (LFnu), high frequency component (0.15-0.40 Hz) in absolute (HF) and normalized units (HFnu). Low values of augmentation index indicate reduced arterial stiffening and reduced cardiac load and vice-versa. Results: A significant increase was noted in the LFnu in the luteal phase compared to follicular phase (p=0.053). Furthermore, LF/HF ratio was significantly higher in the luteal phase (p=0.014), whereas, a tendency for increased HFnu was observed in the follicular phase (p=0.01). The alteration in the balance of ovarian hormones might be responsible for these changes.

Conclusions: S leads to a decrease of WR in hypertensives. This has important implications for arterial stiffening and the pulsatile load of the heart and may contribute to improved exercise capacity at intercourse.

Background: Sildenafil (Viagra®, S) is an effective drug for erectile dysfunction acting on the metabolism of nitric oxide. However, its effects on the cardiovascular system have not been thoroughly studied. Wave reflection (WR) along the arterial tree is an important index of arterial stiffening and cardiac afterload and is inversely associated with exercise capacity.

Methods: We studied 17 hypertensives (age 72±17 years) in a randomized, double-blind, cross-over fashion (50 mg of S and placebo). WR was studied using a validated system (Sphygmocor®) that employs (i) high-fidelity arterial tonometry (Miller tonometer) for the non-invasive registration of radial pulse waveform and (ii) appropriate computer software for pulse wave analysis. Aortic pressure waveform was synthesized from the radial waveform using a generalized transfer function. Augmentation index (defined as PAP %, i.e., waveform) was measured as index of wave reflection. Lower values of augmentation index indicate reduced arterial stiffening and reduced cardiac load and vice-versa.

Results: A significant increase was noted in the LFnu in the luteal phase compared to follicular phase (p=0.053). Furthermore, LF/HF ratio was significantly higher in the luteal phase (p=0.014), whereas, a tendency for increased HFnu was observed in the follicular phase (p=0.01). The alteration in the balance of ovarian hormones might be responsible for these changes.

Conclusions: S leads to a decrease of WR in hypertensives. This has important implications for arterial stiffening and the pulsatile load of the heart and may contribute to improved exercise capacity at intercourse.