

Heart rate variability and stress index after taking 1 tab. Validol followed by consumption of 1 cup of instant coffee in an adult male.

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Introduction

Validol (Menthyl valerate) is a menthyl ester of isovaleric acid. It has long been widely used as a sedative for increased nervous tension and stress with a good effect [1 2 3]. The maximum relaxing effect of Validol occurs 10 minutes after its sublingual intake [2]. Coffee is the most commonly used drink in the world to increase tone and invigorate [4 5 6]. The maximum tonic effect of caffeine occurs 45 minutes after its consumption [7]. The study of heart rate variability parameters is the most accurate method for quantitative analysis of the sympatho-vagal balance of the autonomic nervous system [4 7].

Methodology

- The subject is a 61-year-old man. He weighs 75 kg and is 178 cm tall (BMI=24).
- To record the heart activity, we used the "Kalenji" Chest Strap (with BLE Bluetooth transmission of heart signals). We analyzed the obtained data with the "Kubios HRV" software.
- We performed 3 times short term (3 min.) heart rate variability measurements.
- The first HRV measurement was performed in the morning at 8 h after awakening from sleep under basal conditions.
- The second HRV measurement was made 10 minutes after sublingual intake of 1 tablet. (0.06 gr.) Validol (Menthyl valerate).
- The third HRV - measurement is realized 45 minutes after the consumption of 1 cup of instant coffee.
- All these 3 HRV - measurements were done in a lying position in complete rest and silence.

Results

The obtained results are presented in Figure. 1, 2, 3, 1A, 2A, 3A, 1B, 2B and 3B.



Figure 1: In the morning after waking up before Validol.



Figure 1A: 10 minutes after taking 1 tablet Validol.



Figure 1B: 45 minutes after consuming 1 cup of instant coffee.

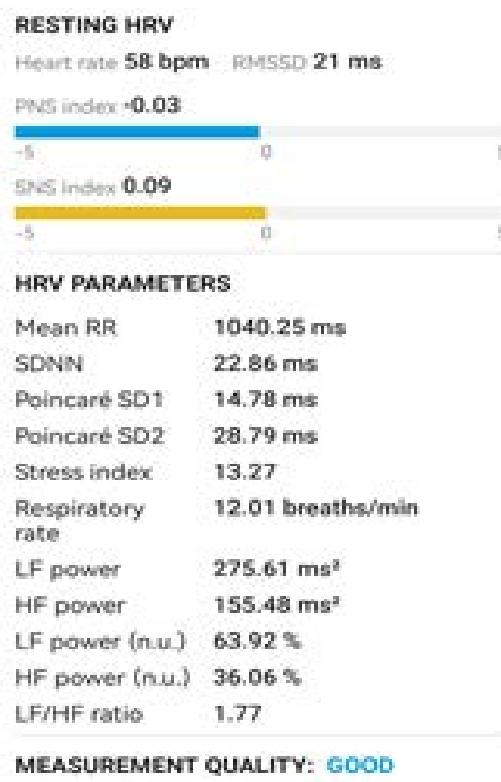


Figure 2: (In the morning after waking up before Validol).

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Figure 2A: 10 minutes after taking 1 tablet Validol).after waking up before Validol).

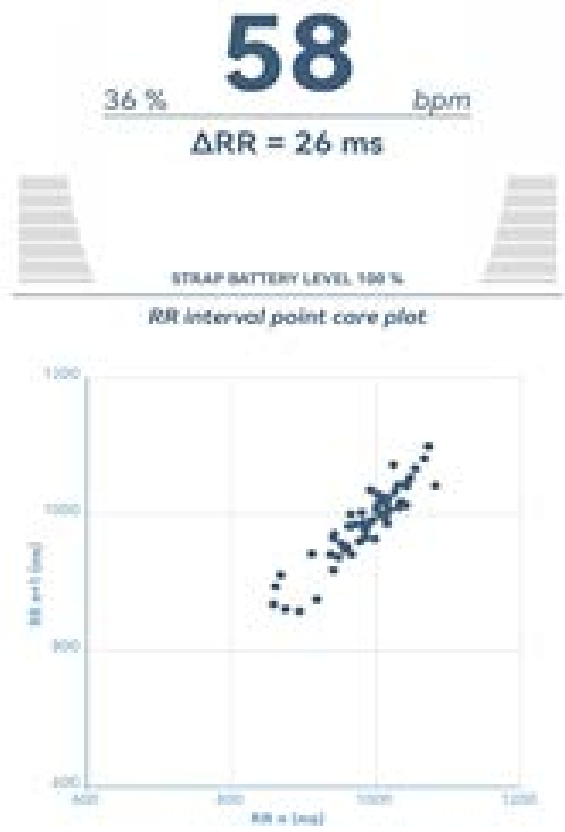


Figure 3: In the morning after waking up before Validol.

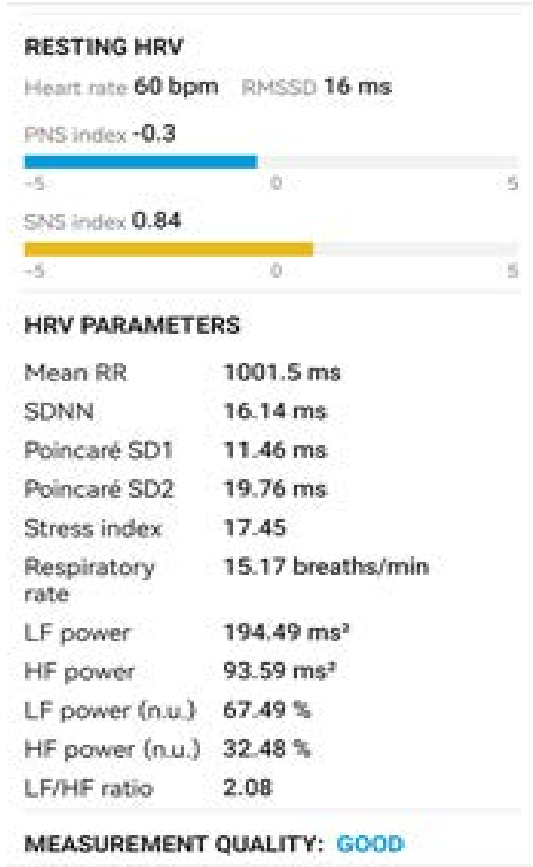


Figure 2B: 45 minutes after consuming 1 cup of instant coffee.

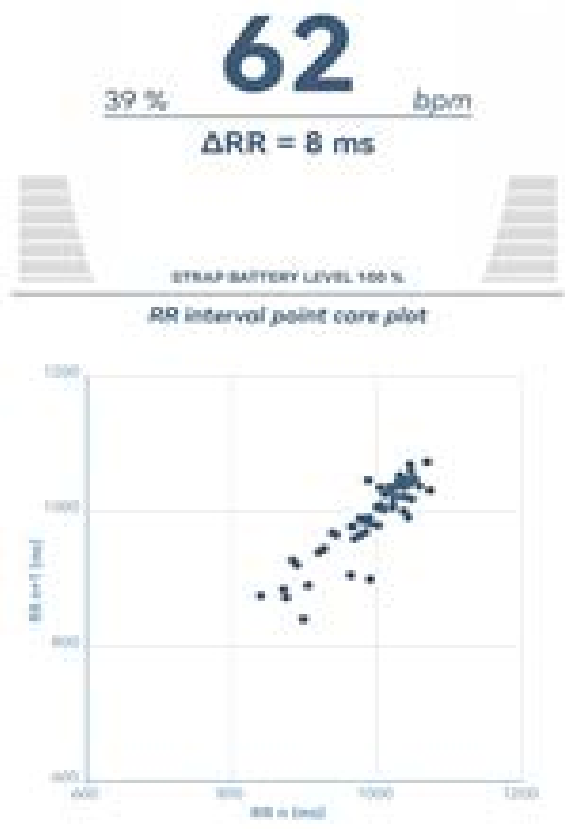


Figure 3A: 10 minutes after taking 1 tablet Validol.

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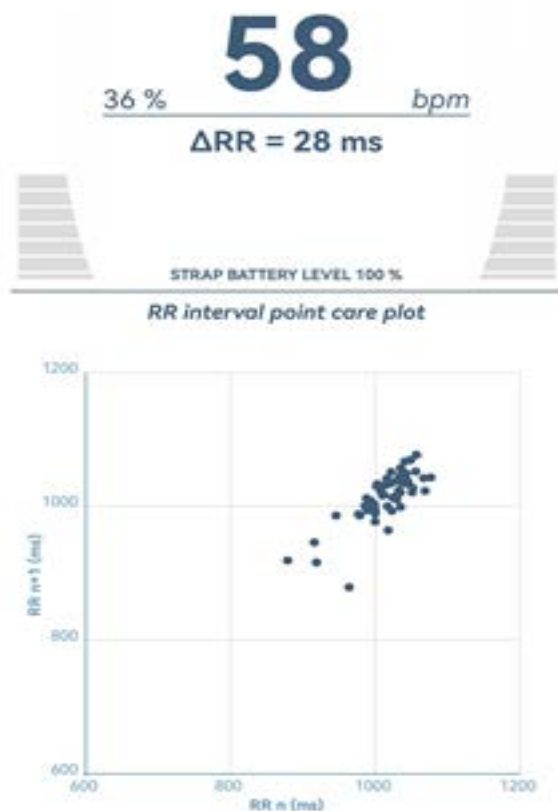


Figure 3B: 45 minutes after consuming 1 cup of instant coffee.

Conclusion

The quality sleep is the best relaxant for the body (best heart rate variability and lowest stress index - better result compared

to Validol). Coffee increases the sympathetic activity, as a result of which the stress index increases.

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