

Baroreception sensitivity

Baroreception sensitivity indicates how many milliseconds the interval between two heartbeats changes RR , if blood pressure changes by 1 mmHg. Physiologically, this is between 10-15 ms → a drop in blood pressure of 10 mmHg will trigger an increase heart rate from 70 beats/min to 80.^[1]

Baroreception sensitivity can be measured. Baroreflex oscillates with a frequency of 0.1 Hz due to delays in the regulatory circuit. Thus, by continuously measuring blood pressure and heart rate, we can calculate the baroreceptive sensitivity according to the formula:

$$BRC = \frac{S(f = 0.1Hz)_{RR}}{S(f = 0.1Hz)_{TK}},$$

where BRC is baroreception sensitivity, $S(f = 0.1Hz)_{RR}$ spectral performance (amount of rhythm) of the heart rate curve, $S(f = 0.1Hz)_{TK}$ spectral performance of the systolic blood pressure curve.^[2]

Sources

Related articles

- Baroreflex

References

1. FRANĚK, Miloslav – VACULÍN, Šimon. *Fyziologie a klinická fyziologie : principy a praktická cvičení*. 1. edition. R.B.C, 2009. 132 pp. ISBN 978-80-254-5409-1.
2. STANČÁK, Andrej – STEJSKAL, Vítězslav. *Centrální ovlivnění barorecepčního reflexu : Praktické cvičení z fyziologie*. Praha : Ústav normální, klinické a patologické fyziologie, 3. LF UK, 1998,