Change of autonomic nervous activity during pregnancy and its modulation of labor assessed by spectral heart rate variability analysis.

Matsuo H; Inoue K; Hapsari ED; Kitano K; Shiotani H

Department of Maternity Nursing, Faculty of Health Sciences, Kobe University School of Medicine, Japan.


Clinical Trial; Journal Article; Research Support, Non-U.S. Gov't

English

Country of Publication: Italy NLM ID: 7802110

Publication Model: Print Cited Medium: Print ISSN: 0390-6663 (Print) Subsets: MEDLINE

Autonomic Nervous System/*physiology
Heart Rate/*physiology
Labor, Obstetric/*physiology
Pregnancy/*physiology
Vagus Nerve/*physiology
Adolescent; Adult; Female; Humans; Parity; Posture/physiology;
Pregnancy Trimester, Third; Supine Position/physiology
Abstract: PURPOSE OF INVESTIGATION: To elucidate the sequential changes of autonomic nervous activity during pregnancy, we examined heart rate variability on two positions and whether autonomic nervous activity affected duration of labor. METHODS: Thirty-eight normal pregnant women were studied. Frequency domain parameters (HF, LF, LF/HF ratio) and heart rate were obtained by spectral HRV analysis in the supine and left recumbent position in three trimesters. RESULTS: We found HF was significantly higher in early pregnancy, while the LF/HF ratio was significantly higher in late pregnancy. The LF/HF ratio was significantly lower when the left recumbent position was assumed. The LF/HF ratio was significantly higher in the longer labor group of primiparous women. CONCLUSION: Our findings demonstrate that sympathovagal balance shifted progressively from a higher vagal modulation towards a higher sympathetic modulation, and the recumbent position activated vagal activity. It is suggested that increased sympathetic activity in late pregnancy could affect the duration of labor.

Entry Date(s): Date Created: 20070716 Date Completed: 20070816

Update Code: 20070716

PMID: 17629156

Persistent link to this record (Permalink):

Database: MEDLINE