

Effect of osteopathic manipulative treatment on gastrointestinal function and length of stay of preterm infants: an exploratory study.

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Abstract

BACKGROUND:

Organizational improvement of neonatal intensive care units requires strict monitoring of preterm infants, including routine assessment of physiological functions of the gastrointestinal system and optimized procedures for the definition of appropriate discharge timing.

METHODS:

We conducted a prospective study on the effect of osteopathic manipulative treatment in a cohort of N = 350 consecutive premature infants admitted to a neonatal intensive care unit without any major complication between 2005 and 2008. In addition to ordinary care, N = 162 subjects received osteopathic treatment. Endpoints of the study were differences between study and control groups in terms of excessive length of stay and gastrointestinal symptoms, defined as the upper quartiles in the distribution of the overall population. Statistical analysis was based on crude and adjusted odds ratios from multivariate logistic regression.

RESULTS:

Baseline characteristics were evenly distributed across treated/control groups, except for the rate of infants unable to be oral fed at admission, significantly higher among those undergoing osteopathic care ($p = .03$). Osteopathic treatment was significantly associated with a reduced risk of an average daily occurrence of gut symptoms per subject above .44 (OR = 0.45; 0.26-0.74). Gestational age lower or equal to 32 weeks, birth weight lower or equal to 1700 grams and no milk consumption at admission were associated with higher rates of length of stay in the unit of at least 28 days, while osteopathic treatment significantly reduced such risk (OR = 0.22;0.09-0.51).

CONCLUSIONS:

In a population of premature infants, osteopathic manipulative treatment showed to reduce a high occurrence of gastrointestinal symptoms and an excessive length of stay in the NICU. Randomized control studies are needed to generalize these results to a broad population of high risk newborns.