

Three reviews in this edition of “The Somatic Connection” (see items titled “As the Twig is Bent, so Grows the Tree”) describe the notable progress in research related to osteopathic manipulative therapy (OMTh; manipulative care provided by foreign-trained osteopaths) in pediatrics. These studies were highlighted in the First Global Congress on Pediatric Osteopathy in September 2015 in Montreal, Canada.

In his presentation at the Congress, Francesco Cerritelli, MsC, DO, announced that because of the recent randomized controlled studies, a systematic review and meta-analysis had been conducted and submitted for publication. According to Cerritelli, the analysis showed benefit of OMTh in the neonatal population.

The studies reviewed herein add to the growing literature on osteopathic manipulative treatment (OMT) and OMTh in neonatal conditions. Lund et al¹ showed OMT benefit in premature infants with nipple feeding dysfunction. Improvement in plagiocephaly has been shown,² as well as in postural asymmetry³ and otitis media.^{4,5} Preceding the Pizzolorusso et al and Cerritelli et al studies reviewed in this edition of “The Somatic Connection” were 3 studies⁶⁻⁸ that set the stage for the Cerritelli systematic review.

I am gratified to see the evidence base for pediatric osteopathy come to the fore in such strong fashion, and I am pleased to bring this research to the attention of US-trained osteopathic physicians.

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As the Twig Is Bent, so Grows the Tree—Part 5: In a Single Hospital, OMTh Shortens Length of Stay in the Neonatal Intensive Care Unit

Pizzolorusso G, Cerritelli F, Accorsi A, et al. The effect of optimally timed osteopathic manipulative treatment on length of hospital stay in moderate and late preterm infants: results from a RCT. *Evid Based Complement Alternat Med*. 2014;2014:243539. doi:10.1155/2014/243539.

Italian osteopathic researchers carried out a controlled trial evaluating the effect of osteopathic manipulative therapy (OMTh; manipulative care provided by foreign-trained osteopaths) on premature infants in a neonatal intensive care unit (NICU) in central Italy. One hundred ten infants aged 32 to 37 weeks gestation were randomly assigned to the study or control group. Exclusion criteria included first OMTh applied after 14 days from birth; “genetic/congenital disorders; cardiovascular abnormalities; proven or suspected necrotized enterocolitis with or

without gastrointestinal perforation; proven or suspected abdominal obstruction; pneumoperitoneum;... or drug addicted mother.”

The study group received standard pediatric care plus 2 OMTh sessions per week for the total time in hospital. Each OMTh session was 20 minutes and used indirect myofascial release, balanced ligamentous tension, and balanced membrane tension to normalize dysfunctions of the cranium. The control group received standard pediatric care and 2 osteopathic structural evaluations per week. The evaluation took 10 minutes, then the osteopath stood in front of the incubator or open crib for 10 minutes “to further assist in blinding the ancillary NICU staff.” There were no dropouts during the trial, and no adverse events were recorded.

Both groups were well matched on all neonatal and maternal characteristics. The primary outcome of hospital length of stay (LOS) analyzed by univariate analysis showed mean (SD) LOS as 14.4 (3.6) days for infants in the study group and 17.0 (8.7) for those in the control group ($P<.01$). Also of significance was a linear regression model evaluating the time frame in which OMTh was initiated: 0 to 4 days, 0 to 9 days, or 0 to 14 days. The earlier the OMTh was started, the shorter the LOS ($P<.001$).

Also evaluated were the relative costs of preterm infant care. Although the actual costs between study and control patients were not significant for the patients in this study, ordinary least square regression taking into account all the relevant variables showed that OMTh produced a significant cost saving of €740 per newborn ($P=.01$).

The authors noted the limitations, which were that these data are from 1 hospital and thus may have limited generalizability and that the cost estimates are theoretical. However, this was a well-designed study and is a useful contribution to the research literature. (doi:10.7556/jaoa.2016.013)

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As the Twig Is Bent, so Grows the Tree—Part 6: In a Multicenter Study, OMTh Shortens Length of Stay in the Neonatal Intensive Care Unit

Cerritelli F, Pizzolorusso G, Renzetti C, et al.

A multicenter, randomized trial of osteopathic manipulative treatment on preterms. *PLoS ONE*.

2015;10(5):e0127370. doi:10.1371/journal.pone.0127370.

Expanding on previous published studies on the effect of osteopathic manipulative therapy (OMTh; manipulative care provided by foreign-trained osteopaths) on preterm infants in the neonatal intensive care unit (NICU),¹⁻³ Italian researchers replicated these previous studies in a 3-site multicenter study. A total of 695 newborns were randomly assigned to the study group ($n=352$) or control group ($n=343$). Inclusion criteria were gestational age between 29 and 37 weeks without congenital complications. Exclusion criteria included lack of parental consent; any genetic disorder; neoplasms; neurologic, cardiovascular, urinary, or hematologic abnormalities; proven or suspected necrotized enterocolitis or abdominal obstruction; birth trauma; operation; pneumoperitoneum; atelectasis; HIV; newborn from an HIV-seropositive or drug-addicted mother; and transfer status to or from another hospital.

The study group received standard pediatric care plus 2 OMTh sessions per week for the total time in the hospital. Each OMTh session was 30 minutes: 10 minutes for evaluation and 20 minutes for treatment. Myofascial release, balanced ligamentous tension, and balanced membrane tension were used. The control group received standard pediatric care and 2 osteopathic structural evaluations per week. The evaluation took 10 minutes, and then the osteopath stood in front of the incubator for 20 minutes with his or her hands near but not touching the infant “to maintain blinding of the NICU personnel.” There were no perinatal deaths in either group, and no adverse events were recorded.