


Correspondence on “Safety, Tolerability, and Efficacy of High-Frequency Chest Wall Oscillation in Pediatric Patients With Cerebral Palsy and Neuromuscular Diseases: An Exploratory Randomized Controlled Trial”

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Dr. Yuan and her colleagues should be congratulated on their contribution to the prevention of pneumonias in children with cerebral palsy and other neuromuscular disorders.¹ Although our study using the same technique was briefly mentioned, the full scope of our expanded results was not discussed.^{2,3} Because there are extremely few reports about the use of high-frequency chest wall oscillation (HFCWO) in children with cerebral palsy, our results need to be fully presented, with the hope that further studies will be undertaken.

Our original report of using HFCWO was published in 2002 with 7 cerebral palsy patients.² Subsequently, we were able to expand our studied population to 11 patients (age range, 1-28 years; median age, 17 years; all were fed by gastrostomy tube; 9 had a tracheostomy; 6 had epilepsy).³ Dr Yuan et al reported results of 4 children with cerebral palsy who received HFCWO and 5 who were treated with standard chest physical therapy. Our study compared the incidence of pneumonias during the preceding 12 months, as compared to 12 months of use of HFCWO. The study of Dr Yuan et al was only for 5 months. Just as they observed, we also witnessed no significant negative side effects.

Our results were statistically significant (Wilcoxon signed rank test, 1-tailed test). The number of pneumonias decreased from 52 to 27 ($P < .05$), and the number of hospitalizations for pneumonia decreased from 13 to 3 ($P < .05$). In comparison, the report of Dr Yuan et al did not show statistically significant differences, although there was a trend of decreased use of antibiotics for pulmonary infections (1 vs 4) and decreased hospitalizations for pulmonary infections (0 vs 2).

In our studies,^{2,3} the frequency of effective suctioning of pulmonary secretions was significantly increased ($P < .001$), and the frequency of seizures in the epileptic patients significantly decreased ($P < .05$).

Our results, just like those of Dr. Yuan et al, show that HFCWO is safe, well tolerated, and very effective in preventing pneumonias and hospitalization for pneumonias in children and young adults with severe cerebral palsy. We also showed that HFCWO is highly cost effective.⁴ Further studies are warranted.

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