Influence of intrapulmonary percussive ventilation in upright position on gastro-oesophageal reflux in infants.

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OBJECTIVES:
To determine the influence of physiotherapy using intrapulmonary percussive ventilation on gastro-oesophageal reflux (GOR) in infants <1 year.

METHODS:
In this controlled trial with intra-subject design, children were studied using multichannel intraluminal impedance pH (pH-MII) monitoring over 24 hr, during which they received one 20-min session of intrapulmonary percussive ventilation in upright position (IPV\textsubscript{R}), 2 hr after their latest feeding. Two hours after each feeding, the number of reflux episodes (RE) over a 20-min period was registered for each infant and a mean per 20 min was calculated in order to obtain a baseline value. The number of RE during IPV\textsubscript{R} intervention was compared to baseline.

RESULTS:
Fifty infants with a median age of 133 days were recruited of whom 21 were diagnosed with pathological GOR. During IPV\textsubscript{R}, the incidence of RE in the entire group was significantly lower compared to baseline; median (inter-quartile range [IQR]) 0 (0-1) versus 0.71 (0-1.33) RE, respectively, \(P = 0.003\). The subgroup with abnormal GOR showed also a significant decrease of RE during IPV\textsubscript{R}; median (IQR) 0 (0-1) versus 1.17 (0.55-2.16) RE, respectively, \(P = 0.03\). No difference was detected in the group with normal reflux; median (IQR) 0.6 (0-1) compared to 0 (0-1) RE, respectively, \(P = 0.34\).

CONCLUSION:
IPV\textsubscript{R} does not induce, nor aggravate GOR in infants without and with pathological GOR, respectively, but on the contrary decreases the number of RE in patients with pathological reflux.

KEYWORDS: airway clearance techniques; children; physical therapy; respiratory physiotherapy