



## Safety and Efficacy of Short-Term Intrapulmonary Percussive Ventilation in Patients with Bronchiectasis.

Paneroni M, Clini E, Simonelli C, Bianchi L, Antoni FD, Vitacca M., ITALY

**BACKGROUND:** Treatment of bronchiectasis includes drugs, oxygen therapy and bronchial clearance maneuvers. The aim of the current study was to assess safety and efficacy of Intrapulmonary Percussive Ventilation when compared with usual Chest Physical Therapy in patients with bronchiectasis.

**METHODS:** In two consecutive days, 22 patients underwent both Intrapulmonary Percussive Ventilation and Chest Physical Therapy following a randomized cross-over design. At inclusion (T0), at the end of 30-min session (T1), and after 30 min (T2) and 4 hrs (T3), side effects, heart rate, oxygen saturation rate, respiratory rate, sensation of phlegm encumbrance and dyspnea measured by visual analogue scales, were recorded. At T1, discomfort measured by visual analogue scales was also recorded. At T3, we evaluated efficacy in terms of volume (mL), and wet and dry weight (g) of sputum.

**RESULTS:** Side effects were not so severe as to determine study discontinuation and were similar (27%) between the two treatments. Heart rate ( $p < .001$ ) and respiratory rate ( $p = 0.047$ ) decreased over time while sensation of phlegm encumbrance improved ( $p = 0.026$ ) with both treatments. Only Intrapulmonary Percussive Ventilation improved ( $p = 0.004$ ) sensation of dyspnea and resulted more comfortable than Chest Physical Therapy ( $p = 0.032$ ). The two treatments caused important phlegm production without differences in total volume, and both wet and dry weight.

**CONCLUSIONS:** In patients with bronchiectasis and productive cough, short-term application of Intrapulmonary Percussive Ventilation is similarly safe and effective than traditional chest Physical Therapy with less discomfort. Further studies on cost-effectiveness of using IPV is recommended.

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