High-frequency percussive ventilation in the management of elevated intracranial pressure.

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We evaluated 38 patients with combined head injury and respiratory failure requiring manipulation of mean airway pressure in order to achieve satisfactory oxygenation. All patients were initially maintained on conventional ventilatory support. When entry criteria were met, patients were transitioned to high-frequency percussive ventilation (HFPV) and cardiorespiratory variables were measured. HFPV resulted in a statistically significant decrease in intracranial pressures in patients when ICP remained greater than 15 mm Hg in spite of optimum medical management. Satisfactory oxygenation was obtained at approximately half the level of CPAP and peak inspiratory pressure as that on conventional ventilation. Thus HFPV provides an acceptable alternative method of ventilatory support in patients with combined head injury and respiratory failure.

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