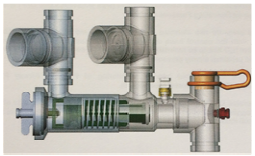

High-frequency percussive ventilation in a pediatric patient with hydrocarbon aspiration.

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INTRODUCTION: To describe ventilator management using a high-frequency percussive ventilator (HFPV), after other modes of mechanical ventilation failed.
DESIGN: Case series.
SETTING: Pediatric intensive care unit.
PATIENTS: Previously healthy 11-month-old male with severe aspiration pneumonitis from mineral oil.
INTERVENTIONS: The patient was initially placed on a conventional ventilator in a pressure-regulated volume-control mode but needed higher-than-normal pressures to maintain adequate ventilation. A decision was made to switch the patient to a pressure-control/pressure-support mode. At the end of the third day of pressure-control/pressure-support mode, a decision was made to attempt airway pressure-release ventilation. During a trial attempt, saturation levels deteriorated and a decision was made to place the patient on a high-frequency oscillator. The patient remained on this mode of ventilation for 6 days. On the sixth day, the chest radiograph showed a worsening of his pneumonia, and the patient started to deteriorate. A decision was made to try the HFPV in an attempt to mobilize secretions and any residual mineral oil. Immediately after initiating the HFPV and for 4 hrs thereafter, large amounts of secretions-including a thick, oily substance-were suctioned from the airways. Within 12-24 hrs, oxygenation improved dramatically and FiO_2 was weaned. During the next 12 hrs, the patient was weaned off HFPV onto a conventional ventilator, and he was extubated 48 hrs after initiating HFPV.
CONCLUSIONS: In this case, HFPV used as an alternative mode of ventilation successfully mobilized secretions that were otherwise unobtainable and that we believe led to the swift recovery of this child. HFPV should be given consideration as a mode of ventilation when mobilization of secretions is an issue.

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