Quantification of lipid accumulation in the diaphragm after mechanical ventilation

Abstract
During mechanical ventilation the diaphragm experiences an extreme case of muscle unloading. In many cases this results in respiratory muscle dysfunctions making it difficult to wean the patient off the ventilator. One component in this dysfunction is the accumulation of intramyocellular lipids (IMCL) in the diaphragm muscle fibres. Using Oil Red O stainings and confocal microscopy on rat diaphragm sections we have quantified this process. The results show a sudden increase in IMCL contents between 18 and 24 hours. No significant difference between fibre types could be seen.

Keywords
Mechanical ventilation, intramyocellular lipid accumulation, diaphragm, rat, Sprague-Dawely

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