Abstract

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The importance of ARDS modeling in the development of modern therapies

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Abstract

Choice an animal model and appropriate method of ARDS induction are essential to evaluation innovative therapeutic interventions. For the study ARDS, animals such as mice, guinea pigs, rabbit, dog, sheep and etc. have been used that each has strengths and weaknesses. Therefore, this review is for introduction a method of ARDS induction that has be maximum benefits and the acute morphological changes in the lung produce similar to the human ARDS with minimal effect on the heart function and be repeatable, also. It seems that induction of the ARDS model as the combination of mechanical ventilation and frequent lung lavage with normal saline can be a suitable model for new therapeutic studies in future. Because surfactant depletion is one of the most important features of ARDS in humans, which with the use of successive lavage with normal saline reduces the surfactant concentration and the alveoli collapse. Also, when mechanical ventilation is performed with high volume after lavage, an increase in protein permeability, PMN leakage into the alveolar space and interstitial tissue, increasing production of cytokines, and formation of the hyaline membrane in the lung are occurred that is similar to ARDS in human.

Keywords: Animal model, ARDS, ventilation, Lavage.

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Biography

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