

Lung ultrasound-guided Bronchoalveolar Lavage to Treat Uninflated Pulmonary Disease of the Newborn

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Abstract

Uninflated lung disease (UnILD) refers to atelectasis as a major pathologic lesion in the lung tissue, which mainly appearances of large area consolidations under lung ultrasound (LUS). Clinically, UnILDs primarily include pulmonary atelectasis of the newborn (PAN), severe pneumonia, and meconium aspiration syndrome (MAS). UnILDs are common diseases in newborn infants and the major reasons for acute respiratory deterioration, a prolonged hospitalization, and difficulties in weaning from mechanical ventilation. From January, 2014 to October, 2019, we conduct bronchoalveolar lavage (BAL) to treat neonatal UnILDs under the guidance of LUS and got excellent results. A mong of total of 745 patients, including PNA 201 cases, severe pneumonia 329 cases and MAS 215 cases. The results that Invasive ventilator use rate significant decreased ($p < 0.01$), the duration required to receive invasive ventilator treatment significant reduced ($p < 0.01$), the length of hospitalization significant decreased ($p < 0.01$) and the hospitalization expenses significant decreased ($p < 0.05$). All patients had stable vital signs during lavage and no adverse side effects were observed. So we concluded that under LUS monitoring, BAL has a significant effect on UnILDs.

Biography

Jing Liu, PhD, MD, is the Director of Department of Neonatology and NICU, Beijing Chaoyang District Maternal and Child Health Care Hospital. Director of the Neonatal Lung Ultrasound Training Base In China. He is good at neonatal intensive critical care, neonatal brain ultrasound and lung ultrasound. Recent 10 years, Dr. Liu Jing focuses on neonatal lung diseases diagnosis using ultrasound, and developed the neonatal lung ultrasound guideline titled Protocol and Guidelines for Point-of-Care Lung Ultrasound in Diagnosing Neonatal Pulmonary Diseases Based on International Expert Consensus. Since March 2017, in his Department of Neonatology and NICU, lung ultrasound has been completely replaced X-ray for the diagnosis of neonatal lung diseases. His academic positions include the Associate Chairman of Chinese Neonatologist Association, the Chairman of Chinese Maternal-originated neonatal disease research Specialized Committee, the Associate Chairman of Beijing Neonatologist Association, and the Editorial members of more than 30 Chinese and English Journals. Liu Jing has published more than 300 papers, over 12 books (including Neonatal Lung Ultrasonography, published by Springer press) and Chapters in Books. His research work has been supported by China Natural Science Foundation etc., and he has won 12 awards for science and technology of the government of China.

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