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Poster Abstracts

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SUCCESSFUL SURFACTANT THERAPY OF BLOOD ASPIRATION IN NEONATES

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Background: Recently the indications for surfactant usage have been extended to non-RDS etiology: ARDS, congenital or acquired pneumonia, MAS and lung hypoplasia. The other controversial indications includepulmonary hemorrhage and blood aspiration syndrome.

Objective: The aim of the study was to present the outcome of natural surfactant treatment used in three neonates with respiratory failure due to blood aspiration.

Material and methods: The neonates were delivered by emergency cesarean section because of premature placanta detachment and hospitalized due to respiratory distress caused by blood aspiration. The mean gestational age was 37,3 weeks (range 34 - 40) and the mean birth weight was 2766g (range 1700 – 3450g). Those infants after primary tracheal suctioning were intubated and required ventilatory support. The initial value of oxygenation index (OI) was 36,3 (23,7 – 61,4) and alveolar–to–arterial oxygen gradient (A – a DO_2) was 611,7 (580 - 640). Those patients were treated with natural surfactant. One of the infants received two doses of surfactant supplementation whereas remaining two neonates were treated with broncho–alveolar natural surfactant solution lavage (15mL/BW). The oxygen index (OI) measured every 6 hours during first day of life and every 24 hours till 7 day of life as well as total ventilation time, duration of oxygen supplementation and the time of hospitalization were analyzed.

Results: In patient who received supplementation of natural surfactant after the first dose the massive amount of blood clots was obtained from respiratory tract with subsequent temporary improvement of ventilation parameters (after 24 hours the oxygen index was reduced by 32% of initial values and alveolar–to–arterial oxygen gradient by 3,7%). After the 2nd dose of surfactant the permanent recovery was observed resulting in extubation on 14th day of life. Among neonates treated with surfactant solution lavage (n=2) significant improvement of respiratory parameters (after 24 hours the oxygen index was reduced by 92,1% of initial values and alveolar–to–arterial oxygen gradient by 92,3%) was observed. The extubation was possible at 12th hour and on 6th day of life. All neonates survived and no signs of secondary pulmonary hemorrhage or other side effects associated with surfactant administration were observed.

Conclusions: Although first data concerning natural surfactant usage in blood aspiration syndrome suggest potential benefits, the treatment of respiratory distress of this etiology required further investigations.