

### LATE SURFACTANT THERAPY FOR POSTSURFACTANT SLUMP IN EXTREMELY LOW BIRTH WEIGHT INFANTS

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**Aim:** To evaluate late suine surfactant therapy for the pulmonary disease in extremely low birth weight infants (ELBW).

**Methods:** A retrospective study of all ELBW admitted in the NICU of Vicenza during 2007-2009. Patients were divided into three groups: early surfactant for respiratory distress syndrome (Group 1), late surfactant for postsurfactant slump (respiratory failure after six days of life) (Group 2) and no surfactant (Group 3). A respiratory severity score (RSS) was used to measure the severity of lung disease and response to surfactant therapy. In group 2 ventilatory parameters before, after 12 and 24 hours the administration of late surfactant were also evaluated.

**Results:** Over three years, 58 ELBW were analyzed, 36 of group 1, 14 of group 2 and 8 of group 3. Patients of group 2 had lower gestational age and birth weights compared to patients of group 1 and 3 (EGA 25 +/- 1.27 in group 2 vs 26 +/- 1.92 and 30 +/- 3.06; birth weight 670 grams +/- 155 vs 732 +/- 136 and 884 +/- 104). More prenatal steroids were used in group 1 than in group 2 (72% vs 57%). Patients of group 2 had an improvement of their lung disease showed by a reduction of their RSS for 48 hours. PCO<sub>2</sub>, pH, MAP improved at both 12 and 24 hours after surfactant administration.

**Conclusions:** Late surfactant therapy led to a short-term improvement of lung disease in ELBW with postsurfactant slump. These patients were more premature and with lower birth weight.