

Preface

The widespread use of surfactant as prophylaxis or rescue therapy for respiratory distress syndrome (RDS) has led to a significant reduction in neonatal mortality which applies also to very immature babies. A large proportion of babies with a birthweight well below 1000 g now survive thanks to surfactant therapy and improved strategies for ventilatory support including the early application of nasal continuous positive airway pressure. The use of surfactant in vulnerable very low birth weight infants is not without ethical concern since many of these babies later develop chronic lung disease and evidence of brain damage. However, surfactant therapy does not increase the proportion of babies with neurodevelopmental sequelae among survivors and will probably remain part of routine clinical management in this category of patients. New indications for surfactant therapy are currently being explored in animal models and in clinical trials. These include meconium aspiration syndrome, bacterial and viral pneumonia, bronchiolitis, acute respiratory distress syndrome of 'adult' type (ARDS) and possibly bronchopulmonary dysplasia.

Some of the pivotal experimental and clinical studies in this field were undertaken by the 'Collaborative European Multicenter Study Group', a network of neonatologists and basic scientists originally organized in 1986 to coordinate clinical trials of Curosurf® for treatment of RDS. This group has expanded considerably in recent years and its regular annual meetings have become an important forum for exchange of new ideas concerning the clinical management of surfactant-related lung disease.

The 17th annual meeting held this year in Cagliari, Italy, attracted delegates from several countries around the

world. Topics discussed include anti-inflammatory and anti-bacterial properties of surfactant, methods to increase resistance to surfactant inactivation, timing of surfactant therapy, modes of administration and strategies for ventilatory support in babies receiving surfactant. We wish to thank Dafydd Walters who presented the 5th Nils W. Svenningsen Memorial lecture on 'Lung lining liquid – the hidden depths', providing another, fascinating perspective of neonatal lung adaptation.

Research is a never ending story and one of the obvious scopes of these annual meetings is to identify new areas for fruitful research. Surfactant is still a 'hot topic' and many problems related to its clinical use remain to be solved. In particular, molecular interactions in surfactant films need to be better understood to provide a rational basis for development of a 'new generation' of artificial surfactant substitutes, based on recombinant or synthetic analogues of the surfactant-associated proteins and combining high surface activity with high resistance to inactivation. Several papers presented at this workshop dealt with this important issue.

We are grateful to the Editor of *Biology of the Neonate*, who gave us the opportunity to reach a wide readership by having the Proceedings of the Workshop published as a supplement to the journal.

*Giulio Bevilacqua
Tore Curstedt
Henry L. Halliday
Bengt Robertson
Ola D. Saugstad
Christian P. Speer*