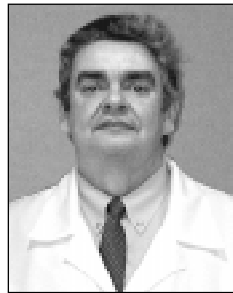




EDITORIAL

New treatments for critically ill children

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Pediatric intensive care is one of the areas of medicine which has developed the most in recent years - all over the world. Brazilian critical care pediatricians have taken part in this scientific growth with ever increasing production. Their articles, books and conferences generate intense interest, not only among specialists, but also by pediatricians who in one way or another, when on call, in outpatients or during an emergency and find themselves involved with the care of critically ill children. This edition of the *Jornal de Pediatria* is concerned with informing everyone about new treatments for critically ill children. The authors hope to offer texts which are comprehensive, clear and in depth and maintain the commitment to scientific evidence which our readers demand.

The article *Rapid airway access* discusses evaluation, preparation, anesthesia and choice of technique for a procedure with a rate of complications that reaches 35% when it is performed outside the operating theatre. In *New therapies for intracranial hypertension*, a number of different neurological brain injuries are analyzed having in common the possibility of increased intracranial pressure (ICP) along with the reasons for the need for precise therapeutic approaches to reduce the elevated morbidity and mortality associated with such cases.

In *Management of acute respiratory distress syndrome*, we find that although the condition was first described many decades ago and despite its morbidity and mortality in pediatric intensive care units, there is still no specific pharmacological treatment. The understanding of the pathophysiology of the disease has led to a series of treatments and the authors point out that many of the strategies used to treat it have not been properly tested in clinical practice but simply adapted or inferred from tests on adult patients. *Noninvasive ventilation in pediatrics* is described as a therapeutic alternative in the context of intensive care. The liberation of mechanical ventilation from the need for an artificial airway avoids the complications associated with an endotracheal tube, improves patient comfort and preserves airway defense mechanisms, the tongue and deglutition.

An innovative therapy, with wide-ranging possibilities for employment in pediatric clinical practice, but which remains controversial is the use of *inhaled nitric oxide*. As a selective pulmonary vasodilator, nitric oxide has beneficial effects on gas exchange and ventilation. The authors point out the lack of and need for controlled trials focused on early administration of the gas, particularly for acute respiratory distress syndrome. The use of exogenous surfactants is also dealt with. In *Exogenous surfactant therapy in pediatrics* the authors explain that despite the success achieved with newborn respiratory distress syndrome, in other serious conditions that lead

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to the need for invasive ventilatory support its use is still controversial and data available in published literature is conflicting.

The *Hypertonic solution for pediatric patients*, associated or not with colloid solutions involves one of the most innovative concepts of the last decade for primary resuscitation of trauma and shock patients. The authors amplify the spectrum of potential indications, involving not just the pre-hospital stage of trauma, but also the perioperative period and ICU treatment.

In *Immediate post-operative care following cardiac surgery*, the authors describe a treatment routine for children who have undergone heart surgery. Diagnosis conditions, preparation of the clinical and surgical team, equipment, personnel trained for heart surgery post-op and adequate hospital infrastructure make all the difference. They emphasize that children with heart diseases, particularly complex ones, should be treated at a location with adequate conditions for overall care during pre, peri and post-operative phases.

In *Advances in sepsis diagnosis and treatment*, the authors explain that during recent years, little has been achieved in terms of reducing the mortality of sepsis, attributing this to the complexity of the relationship between pathogen and host. Surprisingly, the individual modulation of every host reaction has not produced the hoped-for effects. Some strategies, already well-known, were reaffirmed to be of use, and others, such as the use of corticoids and active C proteins, are surfacing as promising treatments. Research points to a combination of immunomodulatory therapies as the best alternative for improving outcome in sepsis. In another article the authors discuss the lack of consensus on the *Adrenal insufficiency in children with septic shock* with critical illnesses, particularly those with septic shock. The authors speculate on when to begin hormone replacement therapy and establish

a diagnosis of occult or relative adrenal insufficiency for patients with severe sepsis and septic shock and when the use of a shock or stress dose of hydrocortisone may be vital to favorable outcome.

In *Analgesia and sedation in emergency situations and in the pediatric intensive care unit*, the authors discuss how one of the most noble missions of medicine - the relief of pain and suffering - can interfere, both positively and negatively, in hospitalized cases, particularly when mechanical ventilation is employed. Similarly, *Intensive care therapy for cancer patients* comments on how emotional support and pain control are fundamental to the child's recovery. Almost all organic systems can be affected by oncological diseases or by the treatments used. Special nutritional support and other intensive care resources may be necessary to correct these functions and are not used in vain. They reduce mortality and improve quality of life in the medium and long term.

Finally, the author claims that *A "good" death in a Pediatric ICU: Is it possible?*. A subject that is often avoided is how the dignified death of a child receiving palliative care in a PICU may be achieved. In this article the author defends the position that the death of a child in a PICU can be dignified and humanized even in this environment, noted for its high technology and seen as inhuman by the public. It is enough to take simple measures, such as giving the family the opportunity to participate in the entire decision-making process in an atmosphere of mutual honesty.

These are the 13 articles that have been sent by colleagues within Brazil and from abroad. For us this has been a gratifying experience, to give form to the work, ideas and convictions of such different colleagues. We hope that, like us, the readers of the *Jornal de Pediatria* will feel themselves recompensed by this work, a little of what is done nowadays in Brazilian pediatric intensive care.