

dates must be accomplished in a sensible and individualized way.

The incorporation of this index, validated by other European<sup>3</sup> and South American<sup>4</sup> groups, and discussed by North Americans<sup>5</sup> has been an undoubted clinical advance. Nevertheless, it is important to remember that there are several variables involved in the prognosis that were not incorporated in the formula, such as the presence of fibrosis in the magnetic resonance, or genetics.

### CONFLICT OF INTERESTS

None

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## The airway in cardiopulmonary and cerebral resuscitation

### *La vía respiratoria en la reanimación cardiopulmonar y cerebral*

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### To the Editor:

To have access to the airway is of vital importance during a cardiac arrest. In the out-of-hospital and in-hospital settings, before a difficult airway, the ventilation and oxygenation must be ensured as soon as possible, but tracheal intubation requires training and regular practice; thus, untrained personnel should not waste time trying to do it and should

focus on high-quality chest compressions and ventilation bag and mask, until the arrival of expert resuscitators<sup>1-5</sup>.

The publication of the study by Soar and Nolan<sup>1</sup> on airway in cardiopulmonary resuscitation, where there is included an extensive database of cases of out-of-hospital cardiac arrest, and which offers an opportunity to reflect on an issue, in which probably, it is very difficult to set clear and uniform rec-

ommendations for all situations, and all kinds of professionals.

All resuscitators<sup>1-3</sup> agree that the airway constitutes a vital element in the cardiac arrest, independently from the fact that the established basic principles were the ABC of resuscitation, as the current CAB. It is advocated, as a ventilation strategy, the use of the bag valve mask to avoid wasting time<sup>4,6</sup>. However, for maintaining a permeable airway to allow adequate gas exchange and, similarly, to protect the bronchoaspiration of gastric content, more advanced techniques are used to access the airway.

Previously, the endotracheal intubation was utilized and currently, the placing of supraglottic devices<sup>2</sup>. In the majority of the out-of-hospital emergency services have been prioritized the use of advanced techniques, both by the medical or paramedical staff, in different acute situations other than the cardiac arrest. Nonetheless, some studies have shown the appearance of complications from the use of endotracheal intubation in different groups of patients with head trauma<sup>3,4</sup> or cardiac arrest<sup>3</sup>, for which its application has been questioned, or even keep its employment only by experienced staff<sup>4</sup>. Undoubtedly, to change current models of practice is a difficult task to accomplish<sup>2</sup>.

Bobrow *et al.*<sup>5</sup> pointed out the existence of marked differences if intubation is performed outside the hospital setting or in hospitals. Although both can be difficult, in the second, there are better conditions and more trained staff.

The out-of-hospital practice of tracheal intubation is widely debated since several years and most studies show a limited value<sup>5-8</sup>. The central question, that is to determine whether or not it outweighs the benefits, remains to be answered.

According to Shin *et al.*<sup>6</sup>, in the out-of-hospital setting, the equipment that is available, the procedures, the resuscitators and their skills, as well as protocols for the use of drugs vary as to the hospital setting and even within the emergencies services and among professionals of the same service. This heterogeneity has been demonstrated in several scientific publications concerning the procedure of the access to the airway in critically ill patients in the hospital setting<sup>1-5</sup>.

Hasegawa *et al.*<sup>8</sup> suggested that the ventilation with a bag valve mask is the best choice for cases of cardiac arrest compared to other techniques analyzed. Nevertheless, despite the results of different studies<sup>1-7</sup> indicate that in advanced resuscitation, the treatment of the respiratory route with tracheal intu-

bation or supraglottic devices does not improve the utilization of the ventilation with bag valve mask; many patients will need treatment at some advanced stage of resuscitation.

Regarding the supraglottic devices, it appears they offer no advantage or even have worse outcomes than tracheal intubation<sup>4,9</sup>. Some research show that there is no variability in the type of used device; however, the ones of state-of-art like LMA-supreme or iGel<sup>7</sup> have not been tested yet.

For this reasons, it can be concluded that tracheal intubation requires training and regular practice to avoid complications, and most authors<sup>6-10</sup> agree that the untrained staff in intubation technique or collocation of supraglottic devices should not waste time doing them, but to focus on high-quality chest compressions and ventilation with bag and mask, until the arrival of expert resuscitators.

## CONFLICT OF INTERESTS

None

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