Conflict of interest

The authors declare no competing interests.

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The risk stratification in community-acquired pneumonia

We have greatly enjoyed reading the recently published article by Zhou and colleagues [1]. The authors evaluated 226 consecutive adult patients with community-acquired pneumonia (CAP) admitted in ED of a tertiary teaching hospital and investigated the risk stratification and prognostic prediction value of procalcitonin and several clinical severity scores on patients with community-acquired pneumonia in ED. They found that combination of procalcitonin and The Sequential Organ Failure Assessment (SOFA) score achieved the highest superiority to other combinations in predicting not only severe CAP, but also 28-day mortality.

Despite the efficacy of modern treatment, CAP is the leading cause of death due to infection and also a frequent cause of medical consultations. Prognostic scores, like the CURB-65 (confusion, urea, respiratory rate, arterial blood pressure and age) score and the pneumonia severity index have been developed and validated to estimate the risk of adverse outcome and to register a patient with CAP for hospital admission. Biomarkers are also useful tools in the diagnosis, prognostics and follow-up treatment of CAP [2]. Since CAP is an infectious disease, commonly-used laboratory parameters include the C-reactive protein, white blood cell count, and procalcitonin. However, recent studies showed that cardiac complications are common in patients with CAP, and cardiovascular biomarkers are found to be superior compared to inflammatory markers, especially for the determination of long-term prognosis in CAP [3]. Elevated levels of natriuretic peptides and troponins are reported to be common and are associated with a higher risk of adverse outcome in CAP. Moreover, decreased right ventricular systolic function [4] or presence of small pericardial effusion at transhoracic echocardiography [5] has been shown to be associated with increased rates of adverse events in patients with CAP.

Therefore, we think that combination of biomarkers of cardiac dysfunction with well-known biomarkers such as procalcitonin and CRP or combination of transthoracic echocardiography findings with classical prognostic scores, like the CURB-65 and SOFA, could improve the performance of single predictors in patients with CAP.

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Ambu® AuraGain™ laryngeal mask as a method of airway management of patient entrapped in vehicle

Sir,

We read the article by Evrin et al. [1] investigating the use of Ambu® AuraGain™ laryngeal mask by firefighters with a great interest. Undoubtedly, it is vitally important to keep looking for new methods of maintaining airway patency and to educate both medical and emergency services personnel in this aspect of medicine [2]. One group, from the emergency services personnel, which was examined by Evrin et al. [1] are lifeguards, however, firefighters are another professional

group that operates within emergency situations. Oftentimes firefighters or policemen arrive at the scene before the emergency medical team does. Additionally, where there is a possibility of danger at the scene of the event the only group that is able to operate in these conditions is firefighters-paramedics since they are equipped with specialized equipment, including the airway protection gear. In a situation where the patient is stuck in a vehicle and the access to the patient is limited, therefore intubation of the tracheal tube is difficult or even impossible to perform [3-5], the supraglottic airway devices may be the only real alternative allowing for airway patency maintenance [6-8]. It should be underlined that in trauma patients the main cause of cardiac arrest are airway obstruction and progressive hypoxia. We currently are able to use the third generation of many supraglottic devices. One of these devices is Ambu® AuraGain™ laryngeal mask, which is 3rd generation laryngeal mask, satisfying 3 fundamental airway management needs by integrating gastric access and intubation capability in an anatomically curved single-use device.

We conducted a randomized, open-label, crossover simulation study to evaluate airway management using Ambu® AuraGain™ laryngeal mask of patient jammed in the vehicle. This study was performed in May 2018. We recruited 45 people who had participated in the Advanced Cardiovascular Life Support course. After viewing a standardized instructional video from the device manufacturers, they received individualized hands-on training on the normal airway manikin AT Kelly Torso (Laerdal, Stavanger, Norway), until they stated they were comfortable with the device. After practical training, each participant was instructed to insert the laryngeal mask, attach a bag valve mask and attempt to ventilate the lungs of manikin with two scenarios- Scenario A: manual stabilization of the cervical spine performed by an independent instructor from the back seat; Scenario B - immobilization of the cervical spine with a cervical collar. The maintenance of the airway was conducted during a simulation in which the patient who was stuck in the vehicle. For this purpose, Resusci Anne Simulator (Laerdal, Stavanger, Norway) was seated in the driver's seat in a passenger car, the seat was set to be in the closest distance to the steering wheel. The procedure of maintaining the airways was conducted from the side of the patient.

In the conducted simulation study, all participants of the study were able to maintain the airway patency with the use of Ambu® AuraGain ™ laryngeal mask in both research scenarios during their first attempt. Median airway time in Scenario A was 17.5 s (IQR, 14–20) vs. 18 s (IQR, 14–21) for scenario B. However, this difference was not statistically significant ($p = .219$).

Moreover, participants at the end of the study rated the difficulty of using device in both scenarios on a visual analog scale (VAS) from 0 (extremely easy) to 100 points (extremely difficult). The easiness of maintaining the airway patency in both scenarios was comparable and it amounted for 16 (IQR; 11–21) vs. 17 (IQR; 13–20) points for Scenario A and B, respectively.

In summary, the maintenance of airway patency with the use of Ambu® AuraGain ™ laryngeal mask is, in the opinion of the surveyed firefighters, an easy procedure when dealing with a patient who is jammed in the vehicle. In both scenarios firefighters were able to maintain the airways with a 100% efficiency.

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