We recommend to researchers who will work on ESP block; when they find the appropriate indication, should not avoid the application of ESP block, report the results and share with the colleagues. The speed of dissemination of knowledge with academic articles is, unfortunately, slower than those between colleagues. In the near future, we will see that interfacial plan blocks are used in many fields of medicine, especially in the fields of anesthesia, emergency medicine, and algology.

Ali Ahiskalioglu*
Muhammed Enes Aydin
Haci Ahmet Alici
Department of Anesthesiology and Reanimation, Ataturk University School of Medicine, Erzurum, Turkey
E-mail address: ali.ahiskalioglu@atauni.edu.tr.

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The end of the era of endotracheal intubation as the golden standard of airway management

Sir,

We have read the article by Alter et al. [1] published in *The American Journal of Emergency Medicine* with great attention. The authors compared the intubation success rates of paramedics using curved versus straight blades.

The authors point out that one of the limitations of the study is the experience in intubation. However, as other studies suggest, the effectiveness of intubation with direct laryngoscopy may be about 50 intubation attempts or even more, and medical personnel is able to use supraglottic airway devices during airway management with high efficiency after a short training [2,3].

Until recently, endotracheal intubation was the golden standard for advanced airway management and ventilation in sudden cardiac arrest patients and was performed by highly skilled medical personnel [4]. Though, the definition of highly skilled medical personnel is unclear; several studies analyzed the minimal number of endotracheal intubations needed to quickly perform the procedure without serious complications in cardiac arrest [5].

In November 2017, an update of the American Heart Association guidelines informed that supraglottic ventilation devices could be used for cardiopulmonary resuscitation, with continuous uninterrupted chest compressions [6].

It is worth emphasizing that numerous studies indicate the possibility of using supraglottic ventilation devices both during cardiopulmonary resuscitation and during some types of elective surgery [7]. An additional advantage of supraglottic ventilation devices over endotracheal intubation is the fact that it can be applied by personnel without appropriate knowledge on endotracheal intubation or authority to perform it, as in the case of the routine usage of supraglottic airway devices by firefighters in Poland [8].

Taking into account the results of the available research, it is necessary to consider whether the recommendations for endotracheal intubation as a routine method of airway management are not a mistake. The authors of the guidelines are often physicians with many years of experience in endotracheal intubation, for whom a change of approach to airway management could seem difficult.

Do we not err in recommending endotracheal intubation, in which we are sufficiently experienced, unlike other medical personnel? Do we not err, risking a decrease in the neurological prognosis in real cases, where the rescuers lack experience at the level comparable with that of the authors of the guidelines?

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Michael Czekajlo
Hounter Holmes McGuire Center for Simulation and Healthcare, Virginia Commonwealth University, Richmond, VA, USA
Corresponding author at: Hounter Holmes McGuire Center for Simulation and Healthcare, Virginia Commonwealth University, 1201 Broad Rock Blvd, Richmond, VA 23249, USA.
E-mail address: michaelczekajlo.er@gmail.com.

Elzbieta Makomaska-Szaroszyk
Michal Paprocki
Lazarski University, Warsaw, Poland

Kurt Ruetzler
Department of Outcomes Research, Anesthesiology Institute, Cleveland Clinic, Cleveland, USA
Department of General Anesthesiology, Anesthesiology Institute, Cleveland Clinic, Cleveland, USA

Jacek Smereka
Department of Emergency Medical Service, Wroclaw Medical University, Wroclaw, Poland

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Hematological "red flags" for disseminated tuberculosis: A diagnostic opportunity for the emergency physician?

In the modern era, the following are the most useful strategies available to emergency physicians to expedite timely validation of a provisional diagnosis of disseminated tuberculosis(TB) in a febrile patient with a normal chest X-ray:-

Computed tomography of the thorax to document miliary tuberculosis [1], mycobacterial blood culture and polymerase chain reaction (PCR) of a peripheral blood sample for *M tuberculosis* DNA [2], urinary diagnostics using PCR of the urine for *M tuberculosis* DNA and evaluation of urinary lipoarabinomannan(LAM) [3].

This diagnostic pathway is typically activated when there is a high index of suspicion for disseminated TB. The index of suspicion can be raised by certain hematological stigmata identifiable in a peripheral blood sample, including hemophagocytosis(so-called hemophagocytic syndrome(HS)), and disseminated intravascular coagulation(DIC), both of which confer an adverse prognosis.

In a world literature review of 37 cases of tuberculosis-associated-HS, there were 29 cases that received some form of antituberculous therapy. Only 19 survived. In most cases treatment failure was attributed to treatment delay [4]. In another series, comprising 8 cases of TB-associated HS, six of whom died, the use of mycobacterial blood culture was documented in only 2 cases, and no mention was made of PCR evaluation of a peripheral blood sample or urinary diagnostics [5]. However, in one reported instance, a timely response to the recognition of the association between HS and disseminated TB may have been life-saving:-

This was a 36 year old woman who presented with fever, lymphadenopathy, and pancytopenia. The presence of haemophagocytosis in the peripheral blood sample prompted evaluation of a peripheral blood sample by mycobacterial culture and by PCR for *M tuberculosis* DNA. Both tested positive for *M tuberculosis* [6].

Stigmata of tuberculosis-associated DIC are also identifiable in a peripheral blood sample. The coexistence of DIC and miliary TB is reportedly associated with a mortality of 70.6%, typically attributable to acute respiratory failure [7]. The association of miliary TB and DIC also confers a risk of peripheral symmetrical gangrene [8]. Testifying to the benefit of prompt recognition of the significance of DIC for timely diagnosis of disseminated TB is the following report of tuberculosis–associated DIC:-

A 21 year old woman presented with fever and weight loss. Her chest X-ray was normal. The subsequent development of florid stigmata of DIC, and derangement of liver function tests raised the index of suspicion for disseminated TB. The latter diagnosis was supported by a subsequent CT of the thorax which showed evidence of miliary TB. CT of the cervical region showed lymphadenopathy, prompting needle biopsy under ultrasound guidance. The latter yielded acid fast bacilli consistent with *M tuberculosis*. The patient responded well to antituberculous chemotherapy [9].

Disseminated tuberculosis can also present with pancytopenia [10,11],which, in some cases may be associated with HS, the latter evident only in the bone marrow aspirate [12-14]. One of those examples was a 9 year old girl who presented with fever and weight loss. In spite of an initially normal chest X-ray and a peripheral blood hemogram which showed pancytopenia in the absence of HS, bone marrow examination showed stigmata of HS. A repeat chest X-ray showed miliary shadowing, and *M tuberculosis* was cultured from early morning gastric aspirate [12]. The coexistence of stigmata of HS in the bone marrow, in the absence of HS in the peripheral blood film, was also a feature in an 18 year old woman who had pancytopenia and coexisting DIC. Thoracic CT showed bilateral lung infiltrate with superimposed miliary shadowing most consistent with miliary TB. Although her extensive work-up did not include mycobacterial blood culture or PCR of the peripheral blood for *M tuberculosis* she did receive the benefit of a diagnostic trial of antituberculous chemotherapy to which she responded remarkably well [13]. The fatal consequences of diagnostic delay were exemplified by a 75 year old hemodialysis patient who presented with fever and a chest X-ray which showed fibronodular shadowing in the left upper lobe. Two weeks after admission he developed pancytopenia(without concurrent HS in the peripheral blood sample), but it was only three weeks later that he had a bone marrow examination. The bone marrow aspirate showed stigmata of HS. Bone marrow biopsy revealed many epitheloid granulomas some of which contained acid fast bacilli. PCR of the bone marrow also tested positive for *M tuberculosis* DNA. Antituberculous chemotherapy was then initiated but he died 3 days after he commenced treatment [14].

Comment

Hematological red flags for potentially lethal complications of disseminated tuberculosis include HS, DIC, and pancytopenia. In a limited resource setting even limited activation of the diagnostic pathway for disseminated TB can expedite empiric treatment of disseminated TB [13], thereby saving lives. Conversely, a delay in identifying HS as the underlying cause of either disseminated TB or tuberculosis-related pancytopenia might prove fatal [14].

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Oscar M.P. Jolobe, MRCP
Manchester Medical Society, Simon Building, Brunswick Street, Manchester M13 9PL, United Kingdom of Great Britain and Northern Ireland
E-mail address: oscarjolobe@yahoo.co.uk.

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