Narendra Nath Jena
Department of Emergency Medicine, Meenakshi Mission Hospital and Research Centre, Madurai, Tamil Nadu, India

Benita Florence
Department of Emergency Medicine, DM Wayanad Institute of Medical Sciences, Kerala, India

Ponniah Thirumalaikolundusubramanian
Department of Internal Medicine, Trichy SRM Medical College Hospital and Research Center, Irungalur, Trichy, India

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The authors reply: pilocarpine and a proper pupillary exam

Dear Editor,

We thank the authors for their reply to and interest in our article [1]. We would like to make mention of a few important points about anisocoria and the pilocarpine test while we agree with the comments of the authors.

First, the detailed patient history (drug use, trauma, etc.) should be learned before performing a pilocarpine test in the differential diagnosis of anisocoria. Then, the pupil examination of the patient should be performed in both dim and bright light [2]. Because in a patient with anisocoria, we first need to determine which pupil is abnormal. If anisocoria is more prominent in the dark, there is a pathology in the small pupil and the diseases affecting the sympathetic system are investigated. If anisocoria is more prominent in bright light, there is a pathology in the large pupil and the diseases affecting the parasympathetic system are investigated. The reaction to light, response to near focus, eyelid position, and eye movements should also be reviewed [3].

The pilocarpine test can be performed in the differential diagnosis only if anisocoria is more prominent in bright light. If anisocoria is more prominent in dim illumination, an apraclonidine test can be performed instead of a pilocarpine test. Therefore, performing a pilocarpine test without detailed eye examination may cause confusion in physicians [3,4].

Pilocarpine is a parasympathomimetic drug and causes constriction in the normal pupil. The pupil will dilate if there is a parasympatholytic drug, such as ipratropium bromide, contact with the eye before a pilocarpine test. If pilocarpine is instilled into this dilated pupil, no constriction occurs and this information is used in the differential diagnosis. As noted by the authors, performing a pilocarpine test in a patient with a history of topical sympathomimetic use and with mydriasis may further complicate the diagnosis. Because sympathomimetic drugs affect the symptomatic system and cause mydriasis. Pilocarpine does not have a direct antagonist effect because it is not a sympatholytic drug, but it may cause miosis by muscarinic receptors. In such a patient, if the patient does not have any symptoms or signs other than anisocoria, and the neurological examination is also normal, it is best to follow the patient closely without any intervention. Because anisocoria occurring as a side effect of the drug will regress within hours [3,5].

A careful and systematic evaluation is required for patients with anisocoria to exclude the life-threatening potential causes. Following the algorithms related to anisocoria when evaluating these patients will prevent confusion during diagnosis. With these algorithms, we can also save patients from detailed and expensive diagnostic procedures.

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Declaration of Competing Interest

No conflict of interest was declared by the authors.

Kamil Kokulu, MD*
Serkan E. Eroğlu, MD
Department of Emergency Medicine, Ümraniye Training and Research Hospital, University of Health Sciences, İstanbul, Turkey
*Corresponding author at: Ümraniye Training and Research Hospital, Department of Emergency Medicine, Elmalıkent Mahallesi Adem Yavuz Cad. No:1 Ümraniye/İstanbul PK: 34764, İstanbul, Turkey.
E-mail address: drkokulu@gmail.com.

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Inclined versus supine position for endotracheal intubation

With great interest, we read an article by Murphy et al., which showed that inclined positioning was associated with a higher rate of first pass success than supine positioning in prehospital endotracheal intubation. [1] Better visualization in inclined position was thought to be a rational mechanism. This study is very welcoming because the patient position is one of the modifiable conditions to achieve better success during intubation. However, some concerns seem to be further explained.

First, patients were categorized into three cohorts: supine, inclined, or unknown. The way the authors dealt the patient's position may be needed in case a patient position is changed after the fail of first try

(i.e supine to an inclined or reverse case). Second, predetermined conditions prior to intubation may be needed to be controlled and further subgroup analysis would show more clinical implication. Authors already performed age-stratification. Indication for intubation would be the main interest for stratification, too. Respiratory failure indication was more frequent in an inclined position (71.0%) and airway protection indication was more frequent in a supine position (79.7%), as authors already described. The two indications are clinically very different, thus stratified analysis for laryngeal view between inclined and supine position in respiratory failure only group and airway protection only group would be expected to reveal clinical implications. Additionally, subgroup analysis among patients who were anticipated difficult airway and patients who were not would give more detailed information regarding laryngoscopic visualization. Status of secretions, obesity, emesis or blood condition is already collected in this study. It would be useful to inform which conditions would be beneficial for an inclined position than supine position before attempting endotracheal intubation.

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Sion Jo, PhD
Jae Baek Lee, PhD
Corresponding author at: Department of Emergency Medicine, College of Medicine, Chonbuk National University, 20, Geonjiro, Deokjin-gu, Jeonju 54907, Republic of Korea.
E-mail address: baeklee@jbnu.ac.kr.

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[1] Murphy DL, Rea TD, McCoy AM, Fahrenbruch C, Yin L, et al. Inclined position is associated with improved first pass success and laryngoscopic view in prehospital endotracheal intubations. Am J Emerg Med 2019;37(5):937–41.

Response: Inclined versus supine position for endotracheal intubation

We thank Professor Jae Baek Lee and colleagues for their interest in our study. A primary concern expressed was the possibility that patient position was altered throughout the course of care for patients needing more than one intubation attempt to successfully place an endotracheal tube. While other details about subsequent intubation attempts are well characterized in our airway registries, unfortunately the patient position is recorded only for the first attempt at tracheal intubation. We too are interested in the techniques undertaken by paramedics following an unsuccessful attempt at intubation, including patient position.

We agree that analysis of outcome stratified by clinical indication for intubation is of clinical import and would help further ascertain which patient cohorts benefit most from this intervention. We are modifying our airway registry to collect additional information and plan to return to this important question in the future.

The question of evaluating outcomes based on anticipated airway difficulty is interesting. Unfortunately, our airway registries did not collect information regarding the pre-intubation airway assessment by the team performing the procedure. Airway assessment tools are taught to prehospital providers in our system, but their clinical utility is modest [1], and of uncertain applicability in the emergent prehospital setting where every airway should be approached like a difficult airway.

We agree that there are potential confounders that limit our study findings. We cannot be certain if the improved first pass success rate or view on laryngoscopy among the inclined patients was due directly to positioning or is a confounding characteristic. We would welcome further work utilizing prospective data collection methods that could specifically investigate the characteristics highlighted by the reader.

David L. Murphy, MD*
Department of Emergency Medicine, University of Washington, Seattle, WA, USA
*Corresponding author at: Department of Emergency Medicine, University of Washington, Harborview Medical Center, USA.
E-mail address: dlmurphy@uw.edu.

Thomas D. Rea, MD, MPH
Department of Medicine, University of Washington, Seattle, WA, USA
King County Emergency Medical Services, Seattle, WA, USA

Michael R. Sayre, MD
Department of Emergency Medicine, University of Washington, Seattle, WA, USA
Seattle Fire Department, Seattle, WA, USA

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HVNI vs NIPPV in the treatment of acute decompensated heart failure: Is acute stabilization enough?

To the Editor,

We agree with Haywood et al. that HVNI could be non-inferior to NIPPV in the management of patients with acute decompensated heart failure [1]. As this study is a subgroup analysis of a larger study, there are some key issues that need to be addressed for meaningful clinical extrapolations.

The authors have included patients with a discharge diagnosis of acute decompensated heart failure without differentiating between patients with reduced and preserved ejection fraction. Furthermore, the inclusion of patients was subjective viz. patients requiring escalation of support to NIPPV without further characterization of the severity or etiology of heart failure. This is concerning, as existing evidence suggests that NIPPV may be harmful in patients with cardiogenic shock and may increase risk of acute coronary syndrome [2]. The existence of comorbidities such as chronic obstructive pulmonary disease (COPD) is not accounted for and could impact the findings. Thus, these results may not be applicable to the complete spectrum of heart failure patients.

Secondly, the authors have mentioned initial settings of NIPPV (inspiratory positive airway pressure of 10 cm H_2O and expiratory positive airway pressure of 5 cm H_2O with fiO_2 of 1.0). These initial NIPPV settings are lower than ones used in a previous randomized controlled trial by Gray et al. (IPAP