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Letter to the Editor

Taipei Azalea: Another example of “MacGyver bias” during COVID-19 pandemic?

To the Editor,

Yang et al. described an airway device modification for use in emergency medical services (EMS) named the Taipei Azalea.¹ It is made by modifying an i-gel[®] supraglottic airway (SGA) to include a breathing barrier (referred to as a face shield by Yang), along with pre-attached securing tape, and a Heat & Moisture Exchanging Filter (HMEF). However, we are cautious about the inherent risks of using a “MacGyver device” that is not scientifically tested.² No data regarding the risk reduction of exposure to respiratory aerosols nor the clinical practicality of the device is presented.

We have assembled our own Taipei Azalea according to the method described and have the following concerns: (1) The recommended sealed plastic bag storage provides little protection from damage when placed in an equipment bag and could result in unexpected equipment failure when used. (2) The device as a whole is rendered non-sterile. (3) Most of these preassembled devices will not be used within 24 h resulting in wastage when disposed. (4) Breathing barriers are available in various sizes, however regardless of the size, these barriers are not form fitting and aerosol leakage is possible from the crumpled edges that develop as the result of recommended packaging method. It is not clear that any kind of a barrier would exist when used in cold environments if the barrier remains stiff and crumpled. (5) The insert for our heat and moisture exchange filter (Covidien Catalogue Number 351U5878) warns that any damage or extended opening of the package may compromise sterility and/or performance of the device. It is unknown how the removal of the original packaging and the subsequent storage technique recommended by Yang will affect filter performance.

Will this be another “aerosol box” situation,³ a device promising in concept but when studied was shown to increase intubation times and cause damage to personal protective equipment (PPE) thereby potentially exposing patients to the risk of hypoxia and placing clinicians at risk of infection?

The authors also cited Bengner et al.⁴ unfortunately in a wrong context. Although endotracheal intubation (ETI) does not improve OHCA functional outcome, ETI does provide a closed airway system that will prevent further aerosolization which will significantly reduce the risk of disease transmission. Thus, we believe it is premature to consider replacing ETI with the Taipei Azalea in the presence of experienced intubator donning airborne precaution PPE in the prehospital setting.

It is recommended during the time of crisis to use safe, simple, familiar, and reliable equipment for all interventions since hands-on training is hard to achieve.⁵ While modification and innovation of medical devices should be encouraged, it should be done scientifically and undergo vigorous testing prior to being recommended for use. “MacGyver bias” syndrome could increase rather than mitigate aerosol exposure hazard if it is not managed objectively. Will the Taipei Azalea wilt before it even flowers? We look forward to additional reports from Yang et al. about their further study of this set up and its use in the prehospital setting.

Author contribution and declaration of interests

None of the authors has any conflict of interest to declare.

All authors were actively involved in the writing and/or revisions of this letter. The authors declare there are no personal financial conflicts of interest relevant to this paper.

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