

The role of videolaryngoscopy in airway management of COVID-19 patients

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Dear Editor,

The world is facing the first pandemic of the 21st century caused by a new coronavirus (SARS-CoV-2). This outbreak will mark a before and after. Airway management will not remain outside the evolution of these events. Difficult airway is a clinical problem far from being resolved. Thus, it remains an important cause of death and irreversible brain damage. The core recommendation of the recent guidelines focuses on limiting the duration and number of attempts at tracheal intubation in order to achieve early atraumatic intubation [1], the philosophy on which the vortex approach is based [2]. Likewise, the availability of videolaryngoscopy in all circumstances and locations where the airway is treated is advocated since it allows better visualisation of the glottis, increases successful intubations on the first attempt, and reduces failed tracheal intubations and therefore trauma to the upper airway [3, 4]. Thus, different meta-analyses have objectified the advantages of videolaryngoscopy compared to direct laryngoscopy [5]. Multiple publications have recommended the universalisation of videolaryngoscopy [3]. However, costs and rooted classical clinical practice have hampered the routine use of these devices. The coronavirus outbreak arises in this context.

SARS-CoV-2 is a highly contagious virus. Tracheal intubation involves exposing healthcare personnel to a high viral load, which determines a more severe disease in those professionals

who become infected [6]. Thus, it is the procedure with the highest risk of aerosol generation, followed by tracheostomy, non-invasive ventilation, and facial mask ventilation [7]. Therefore, the airway must be specifically treated, maximizing patient and operator safety [8]. Tracheal intubation should be performed at the opportune time without undue delay. This allows proper preparation and planning, using the recommended personal protective equipment [9]. Rapid sequence induction is advocated to avoid the generation of aerosols by facial mask ventilation and the use of effective and precise tracheal intubation techniques that avoid repeated attempts and, therefore, greater exposure. In general, it is pertinent to avoid all those procedures that cause generation of aerosols [8, 9]. Several recommendations have recently been published [9, 10]. All of them propose the videolaryngoscope as the device of first choice for performing all intubations, being an element universally included in the intubation kit of COVID-19 patients to the detriment of the direct laryngoscope. There are multiple arguments that justify it. First, videolaryngoscopy allows a greater distance between the operator and the patient's airway, and consequently less exposure to drops and aerosols compared to direct laryngoscopy. Thus, Hall *et al.* [11] determined a significant difference from mouth to mouth of approximately 20 cm in favour of videolaryngoscopy (35.6 vs. 16.4 cm). Secondly, video-

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laryngoscopes are devices that allow the use of physical barriers as adjuncts to contain the diffusion of aerosols [12]. Thirdly, videolaryngoscopes favour the intubation of complex patients with little physiological reserve in a highly demanding environment, wearing bulky individual protective equipment that reduces the mobility and vision of the operator [13]. Fourthly, it may reduce use of aerosol generation techniques such as fiberoptic bronchoscopy [12]. It also reduces the number of attempts and more precise support from assistant personnel. These characteristics are essential since patients with COVID-19 may have a high incidence of laryngitis, periglottic oedema, mucosal inflammation and increased frailty or obesity, factors that can hinder airway management [14, 15].

Videolaryngoscopy is likely to meet the patient-operator safety requirements necessary to treat the airway of COVID-19 patients. We believe that SARS-COV-2 has made us definitively aware of the risks involved in treating the airway for the operator and may overcome previous reluctance to universalise videolaryngoscopy. The pandemic probably will also influence the market and industry so as to provide cheaper devices and promote widespread diffusion. This change in clinical practice is highly likely to be irreversible.

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