

## Intubation of bleeding patients in the emergency department or the operating room: A medical decision to be justified

### To the Editor:

We read with attention the recently published online work of Dunton et al.<sup>1</sup> analyzing the outcomes of patients undergoing immediate hemorrhage control surgery intubated in an emergency department (ED) or an operating room (OR). The analysis of 9,667 patients shows that patients intubated in the ER die significantly more than those intubated in the OR (17.4% Vs 7.1%,  $p < 0.001$ ).<sup>1</sup> To minimize confounding, the authors take the choice to exclude patients dead-on-arrival, undergoing ED thoracotomy, or with clinical indications for intubation (severe head/neck/face injury or GCS  $< 8$ ).<sup>1</sup> Despite this, a certain number of missing elements, whether in the profile of the patients or the timeline of their management, limit us in the analysis of the results.

The patients intubated in the ED are more severe (median injury severity score 22 Vs 17,  $p < 0.001$ ) and more frequently suffer chest trauma (50% Vs 34.6%,  $p < 0.001$ ) than those intubated in the OR.<sup>1</sup> However, we have no clinical (saturation or respiratory rate) or para-clinical (arterial blood gas) data to determine their degree of respiratory failure. There is a great risk of comparing patients who present a double failure, respiratory and circulatory, with patients presenting only a circulatory failure. We also do not know whether patients had extended focused assessment with sonography in trauma (e-FAST) or CT scan, to search for lung or pleural lesions that could decompensate after intubation. This knowledge or lack of knowledge comes into play in the medical decision to intubate. The indications of intubation were not collected by Dunton et al.<sup>1</sup> but with the clinical status of the patients showing a median Glasgow coma scale of 15 and systolic blood pressure of 107 mm Hg, it is not possible for us to assess the eligibility of intubation for patients in the ED.

More than the place, it is the moment of the intubation in severe trauma management that is important. As military physicians, we are very sensitive to optimizing evacuation times and reducing delays from the point of injury to the OR. As the authors state, rapid transport to the OR is a major process. But we unfortunately either do not have data on the time between the intubation and the surgery, to observe whether intubation in the ED slows down the surgery.

Another confounding factor may be the intubation protocol for patients in hemorrhagic shock. Indeed, if no induction drug has proven to be superior,<sup>2</sup> as well as preventive fluid bolus administration,<sup>3</sup> this risky procedure must be the object of particular attention of the teams. A recent international high-quality observational study used a 30-minute threshold to collect data on adverse peri-intubation events.<sup>4</sup> The small difference in median ED dwell time for patients who are intubated (9 minutes<sup>1</sup>) there could reflect a lack of surveillance. Moreover, the better results reported by Dunton et al. in trauma centers are probably a reflection of this standardized management by trained teams.

One of the approaches to limit the mortality of patients requiring immediate hemorrhage control surgery is the choice made in France of prehospital medicalization. An early evaluation by a physician, at the point of injury, allows a rapid search for the causes of preventable deaths in trauma patients: hemorrhages, whether externalized or occult, airways injuries and compressive pneumothorax. This assessment is based on clinical examination, point-of-care biology and e-FAST. Damage-control resuscitation can be started quickly and continued during transport, with the military *en-route* care strategy. It leads to the referral of the patient directly to the OR, to the CT scan or to the ED. Continuous monitoring of vital parameters allows for anticipating and reacting to vital distress. This standardized management prioritizes the essential actions to be taken, as any delay has an impact on mortality.<sup>5</sup> Delay intubation for saving time is a true medical decision.

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## Intubation of bleeding patients in the emergency department or the operating room: A medical decision to be justified—reply

### To the Editor:

Thank you to Corcostegui et al. for their interest in our recent article entitled “Emergency Department Versus Operating Room Intubation of Patients

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