Difficult intubation in obese patients

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Editor—I read with great interest the article by De Jong and colleagues. It was an extensive multicentre prospective observational cohort study involving obese patients who were intubated in the operating theatre (OT) or the intensive care unit (ICU). It is obvious that patients who are intubated in the OT in controlled conditions, with several gadgets available at the disposal of the anaesthetist, have a higher success rate than the patients who are intubated in the ICU, provided they are intubated electively. Patients in the ICU are totally different because many of them are on non-invasive ventilation or supplemental oxygen or steroids before intubation. However, emergency intubation in the ICU is contemplated when there is a cardiac arrest, sudden deterioration of Glasgow Coma Scale requiring airway protection, or sudden cardiovascular compromise (such as a massive bleed, or left ventricular failure leading to pulmonary oedema). In the event of emergency intubation in the ICU out of hours, the physician will have no help available. Intubations in the ICU are carried out on the ICU beds, where options for manoeuvring the head end are minimal, unlike OT tables.

A clinically stable patient presenting for elective surgery will give the anaesthetist a lot of time to position the patient properly so that optimal bag–mask ventilation can be achieved and an optimised laryngoscopy can be performed to facilitate successful intubation. If the same patient presents for emergency surgery (such as laparotomy, head injury requiring craniotomy, or polytrauma), the situation will be different.

Anaesthetists have a meticulous method for airway examination, which is documented in the pre-anaesthesia check-up form and highlighted by many of them. Hence, it is obvious that a Plan A/B/C is in place. The authors have described the Modified Mallampatti Score (MPS), which was done in the sitting position in OT cohorts and in the supine position in ICU patients. I feel that in the supine position, the MPS will provide information about mouth opening only, which is poorly correlated with laryngoscopy. Airway examination is not a routine practice amongst ICU physicians, but they anticipate the difficult airway (e.g. obese patient, short neck). This could be one of the reasons why difficulty is encountered in intubating such patients. Therefore, it is not surprising to see that the incidence of difficult intubation is almost double in ICU patients (16.2%) compared with those in the OT (8.2%). Also, patients in the ICU are compromised in some way, having some organ dysfunction leading to decreased respiratory reserve, hence to pulmonary events following intubation.

I feel that airway examination and documentation of findings should be part of ICU practice. The abnormal findings should be highlighted and should be provided in the handover to colleagues during shift change in borderline patients (who may require intubation) so that necessary arrangements are made and a senior colleague’s help is sought if required.

Declaration of interest
None declared.

References
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Difficult intubation and life-threatening complications in obese patients: understanding the ‘environment effect’

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Editor—we read with great interest the work of De Jong and colleagues relating to difficult intubation in obese patients in the intensive care unit (ICU) and operating theatre (OT) and congratulate the authors on the scope of their study. We feel that the work addresses an important and increasingly problematic area of current anaesthetic and ICU practice and contributes to the current evidence base in the area. However, we also feel that there are some issues relating to the study that are worthy of further debate.

The headline findings of the study are that difficult intubation in obese patients is twice as likely to be seen in the ICU rather than the OT and that severe life-threatening complications relating to intubation were up to 20 times more frequent in the ICU compared with the OT. Although these represent significant
The timing of intubation in the ICU and the level of expertise of the operator may also have contributed to the large increase in difficulties and complications reported in obese ICU patients compared with OT patients. It is interesting to note that only 34% of ICU intubations took place during daylight hours and only 42% were performed by expert operators. No comparative figures are provided for the OT cohort, and it would be interesting to know in this study whether relative operator inexperience and also performing intubation in an emergency situation ‘out of hours’ may have been contributory factors in the higher rates of problems encountered in ICU patients, as has previously been suggested.4

The authors make reference to a number of potential limitations of their study in the Discussion. However, although they note the different time frames during which data were prospectively collected (2006–2011 for OT patients but 2011–2012 for ICU patients) they provide no explanation as to why a much later and shorter time frame was used for the ICU patient group. This results in substantially fewer ICU patients (by a factor of almost 10) being included in the analysis, and coupled with the time discrepancy, represents a potential source of bias in the findings.

On the whole, the authors present valuable data relating to a patient group that forms an increasingly common and often problematic proportion of ICU and OT patients, but does their comparison between the two very different environments really carry weight?

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References

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