Management of failed intubation and difficult airways in UK Obstetric Units - an OAA survey

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Introduction:

The OAA and DAS have formed a working group to formulate national guidelines for the management of difficult airways and failed intubation in the obstetric patient. In addition to available evidence from studies and case reports, a knowledge of current UK practice was felt to be useful to help direct guidelines development.

Method:

An official OAA survey, in conjunction with the Difficult Airway Society, was sent to UK lead obstetric anaesthetists (n=196). Questions were asked about the number of failed intubations occurring within the last calendar year with details of how the case(s) was managed. We also asked about availability and use of difficult airway equipment and training of anaesthetists in obstetric anaesthesia.

Results:

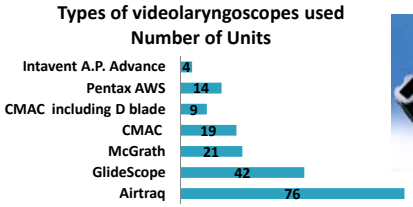
- The response rate for completed forms was **76%** (n=148).
- 20% of units responding have prospective audit data detailing failed intubations as recommended by RCOA[1]
- 35% of units use electronic methods and 46% use paper for routine follow-up.
- Four lead anaesthetists did not know if there had been failed intubations in their units.

Resources available:

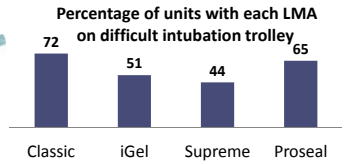
- In 68% of units the volatile agent most commonly used for obstetric GA is sevoflurane, 32% use isoflurane and only in one unit is desflurane routinely used.

Laryngoscopes

- In one third of units only short-handled laryngoscopes are used.
- Polio blades are used regularly in 12 units (8%) and no longer kept in 16 units (11%).
- Only 3 units reported that they had used the polio blade from the difficult airway trolley in the last year.
- 133 units (90%) have a videolaryngoscope available in their obstetric unit. There is a wide variety of types in use – see below:



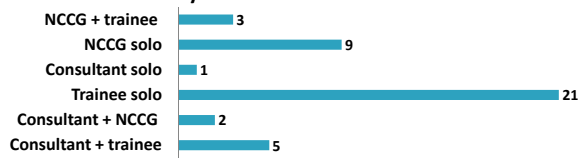
Supraglottic airway devices (SAD):



In 81% of units staff are able to use second generation LMAs in routine GA practice.

Details of the failed intubations reported:

- **55 failed intubations were reported in the last year;** 42 units reported one failed intubation, three units reported two, one unit three and another four cases.
- The lead anaesthetist was able to provide some details of the failed intubation in 41 cases and most of the requested details in 30 cases.



- After a failed intubation, general anaesthesia (GA) was continued in 28/41 (68%) cases and the rest (32%) were woken up.
- Two cases were reported to be managed by CT2 trainees - both proceeded with GA after the failed intubation.
- In 30 cases where a SAD was used as a rescue device, a second generation device was used in 18 (60%) cases.
- There was 1 reported failure of the second generation device.
- No cases required emergency front of neck access.
- In the 28 patients in whom surgery was continued, 10 (36%) were breathing spontaneously whilst 18 (64%) were ventilated.
- No patient had additional depolarising relaxant but 10 /18 (56%) had additional non-depolarising muscle relaxant (NDMR).
- In one case total intravenous anaesthesia was employed.
- No neurological sequelae were reported.
- One case of aspiration of blood after traumatic intubation was reported, but the patient had an uneventful recovery.

Fibreoptic intubations:

- 24 planned AFOI were performed in 16 units in the last calendar year for predicted difficult intubation.
- 5 units reported performing an AFOI after a failed intubation.
- Where no AFOI was performed; 116 (91%) cited no anticipated need, three units lacked available equipment whilst eight units had insufficient expertise to perform.

Orogastric tubes:

- 115 (78%) units do not routinely use orogastric tubes.
- Seven units (5%) use them for all GAs.
- 15 units (10 %) only use them if the patient has recently eaten.
- Five units (3%) use only after failed intubation if 2nd gen SAD permits passage.

GA experience prior to on call:

- Of the units who responded to this question; 75 /138 (54%) do not require trainees to have performed an obstetric GA prior to independent working.
- 44% of these units (33/75) require simulation practice.
- Of those requiring a trainee to have actually performed an obstetric GA prior to commencing on call; 18 require just one, 33 require 2-5 and 12 units require > 5.
- Many units comment that with low numbers it is not possible to give actual GA experience.

Discussion:

- In the majority of cases of failed intubation, anaesthesia was continued without tracheal intubation. Many of these were managed by trainees alone.
- Of those where GA continued with a SAD, a second generation LMA was used in 60% of cases.
- More patients were ventilated than permitted to breathe spontaneously and a NDMR was administered in more than 50% of those ventilated.
- Second generation LMAs and videolaryngoscopes are increasingly available.
- It is important that anaesthetists are able to gain experience using the difficult airway equipment available in their unit to ensure they are proficient in their use when managing a difficult airway. It is reassuring that in > 80% of units, staff are able to use second generation LMAs in routine GA practice.
- It is questionable whether Polio blades that are rarely used should continue to be widely stocked.
- Few units are currently using orogastric tubes routinely.
- It is of concern that in over half the units reporting, trainees are not required to have performed a GA section prior to commencing on call in obstetrics largely as a result of low total annual numbers of GAs.

References:

[1] Raising the standard; a compendium of audit recipes. RCOA 3rd edition 2012. Chapter 8.10