



Audit of airway documentation in obstetric anaesthesia

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Introduction

Pregnant patients are at higher risk of difficult airway management than the general population. NAP4 demonstrated that poor airway outcomes were linked to poor airway assessment, specifically omission of documentation or incomplete assessment (1). We audited compliance with the Difficult Airway Society and Obstetric Anaesthesia association’s guidance that all pregnant patients who interact with an anaesthetist should have an airway assessment documented.

Dentition

		MP	1	2	3	4
		MO	>3cm	<3cm		
		TMD	>6cm	<6cm		
		Neck ROM	ok	limited		
		JP Gd	A	B	C	

Methods

Caldicott Guardian approval was obtained.
Round one audit collected retrospective data for 60 obstetric patients; 30 of whom underwent GA and 30 who underwent neuraxial intervention (NI). Anaesthetic charts were reviewed, with airway assessment documented in a free text box headed ‘Airway’. Documentation of Mallampati grade; jaw protrusion grade; thyromental distance; mouth opening; neck range of movement; and dentition were assessed. If a GA was performed the Cormack-Lehane grade, number of intubation attempts, airway adjuncts used, and airway operator grade were recorded.
An “airway sticker” prompt overlying the pre-existing free text box labelled ‘Airway’ was introduced. The prompt included the six aspects of airway assessment: dentition, Mallampati grade, mouth opening, thyromental distance, neck range of movement and jaw protrusion grade. Round two data collection reviewed a further 60 obstetric patients with anaesthetic encounters.

Results

Round one: 28.3% of patients did not have an airway assessment documented. On average 2.2 of the 6 aspects of airway assessment were recorded for patients.

Of the patients undergoing NI who had Mallampati recorded, 27.8% were a Mallampati grade 4. In 10% of those undergoing GA more than one attempt at intubation was required, and in two (6.66%) a second intubator was required.

Intervention: “Airway sticker” prompt inserted into the anaesthetic chart

Round two: Number of patients with no airway assessment documented reduced from 28.3% to 21.7%. The average number of airway parameters recorded increased from 2.2 to 5.8.

Equivalent number of obstetric anaesthetic charts were reviewed as round one data collection but with different distribution of GA versus NI, 3 and 57 respectively.

Pre intervention		Post intervention	
No documented airway assessment	28.33%	No documented airway assessment	21.66%
Type of assessment	% documented	Type of assessment	% documented (% change)
Mallampati grade	61.67%	Mallampati grade	76.67% (+15%)
Dentition	58.33%	Dentition	65% (+6.67%)
Mouth opening	31.67%	Mouth opening	73.33% (+41.67%)
Neck range of movement	31.67%	Neck range of movement	61.67% (+30%)
Thyromental distance	13.33%	Thyromental distance	56.67% (+43.33%)
Jaw protrusion grade	25%	Jaw protrusion grade	50% (+25%)

Table 1: Pre and post intervention airway documentation

Discussion

Both cohorts had a range of grade of anaesthetist and included elective and emergency cases, so were reflective of day-to-day practice. The airway prompt sticker increased the number of patients with documented airway assessment and the assessments were more comprehensive. Our department are altering obstetric anaesthetic charts to replicate the sticker as standard.

References

- (1) Cook, Woodall, Frerk. 4th National Audit Project of The Royal College of Anaesthetists and The Difficult Airway Society, Major complications of airway management in the United Kingdom. March 2011.
(2) Mushambi, Kinsella, Popat et al. Obstetric Anaesthetists' Association and Difficult Airway Society guidelines for the management of difficult and failed tracheal intubation in obstetrics. Anaesthesia 70 (11), Nov 2015, 1286-1306.