Evaluating the impact of an induction checklist on video laryngoscopy use as the first line intubation device.

H.Sheppard, J.Critchley, N. Freeman, N.Alexander, K.Theodosiou
Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh, Scotland, UK

Introduction

General anaesthesia (GA) in obstetrics is associated with an increased rate of awareness and failed intubation, occurring in approximately 1 in every 390 cases. This rate has remained largely unchanged over the past 30 years. Furthermore difficult intubations, defined as those requiring multiple attempts, are quoted in literature to occur in 1-16% of cases.[2]

Videolaryngoscopes (VL) provide an improved view of the glottis, compared with their direct view counterparts. Experienced use reduces failed intubation rates and airway trauma, whilst encouraging a team approach to intubation, with the obtained view visible to all.

The Obstetrics Anaesthetists Association (OAA)/Difficult Airway Society (DAS) suggest VLs as the first line device, recommending one should be immediately available for each induction.[1] The McGrath MAC videolaryngoscope (MMVL) is first line within the Simpson Centre for Reproductive Health in NHS Lothian. This is included on our Rapid Sequence Induction (RSI) checklist, introduced in November 2020. Ongoing audit evaluates the proportion of RSIs utilising the MMVL in obstetric theatres.

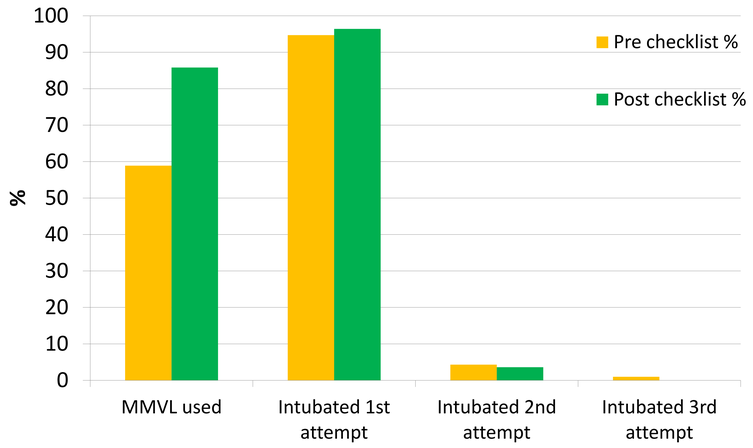


Figure 1. Impact of checklist use on VL usage and number of intubation attempts.

Results

Data captured evaluated 177 obstetric intubations over a 10 month review period and was compared with previous audit data evaluating 207 intubations over a 12 month period.

- MMVL 1st line use increased from 58.9% (122/207) to 84.1% (149/177).
- 96.6% (171/177) of cases were successfully intubated on 1st attempt, increased from 94.7 % (196/207).
- Only 6 cases (3.4%) required a 2nd attempt, compared with 9 cases (4.3%) previously .
- No cases required 3rd attempt compared with 2 cases (0.97%) in the previous audit period.

Method

Prospective data capture of obstetric intubations from December 2020 – September 2021. Planned awake intubations were excluded. Data was recorded by the intubating anaesthetist at the earliest appropriate opportunity following induction. Collected data included date, time and category of surgery, specific surgical intervention, grade of anaesthetist, induction drugs used, equipment used, difficult airway predictors, experience with chosen laryngoscope and number of intubation attempts required. Collected data was compared with previous audit results from November 2018- 2019, prior to the introduction of the RSI checklist.

Conclusion

This clinical evaluation suggests that the introduction of an RSI checklist and it's consequent increase in MMVL use has been a success within our department. Despite an increase in markers predicting difficult airway, such as BMI, all intubations have been successful within the first 2 attempts. Both current and previous audit data compared favourably with the incidence of difficult airways quoted in literature.

This would support the NAP 4 recommendations of the benefits of a simple peri-induction checklist, which can not only act as reminder for equipment but also improve teamwork and reduce anxiety.[3]

These interventions have contributed to the further improvement of the consistently high rate of successful first intubations and management of difficult airways.

References

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