

and 4.16% respectively (NS). No difference was found for MACE occurrence rate during follow-up: DEC: 38,2% vs UNCH: 20,8%,  $p$ : 0.33 Time to first MACE was shorter in group DEC (224,9+/-164,2 vs 272,3+/-120,9;  $p$ : 0.02). Post CPB AvgGLS had the best sensitivity and pre CPB AvgGLS had the best specificity to predict MACE occurrence (Se: 0,87 and Sp: 0.896 respectively). ROC curves are shown in Fig 1.

**Discussion:** Our main findings are: Almost 70% of patients decrease the AvgGLS after CPB irrespective of type of surgery. these patients experienced significantly more in-hospital complications and earlier incidence of MACE during long term follow-up. Perioperative AvgGLS show very high predictive Se and Sp for MACE occurrence. This opens the possibility of building a predictive score to detect the patients at risk of MACE.

**REFERENCES:** 1. Anesth Analg 2017; 126:1476-83. 2. JCVa 2017; 31:184-190. 3. Anesth Analg 2017; 124:419-28.

### PP.01.36

#### Airway management in the critically ill patient - How can we improve?

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**Introduction:** The NAP4 demonstrated adverse airway outcomes are associated with poor airway assessment and poor planning. 25% of major airway events occur in the Intensive Care Unit (ICU) or emergency department (ED), and the outcome of these events are more likely to lead to permanent harm or death compared with the operating theatre.

This study set out to review documentation of intubations in ICU patients, including the pre-procedure planning taking place to identify areas for improvement.

**Methods:** Single institution retrospective review of documentation of endotracheal intubations performed by ICU staff (on either ICU or a ward/ED) over a six week period in an English district general teaching hospital. Criteria assessed were: use of a pre-intubation checklist, documentation of name and grade of intubator, airway assessment, time of intubation, drugs and doses given, number of attempts at intubation, use of cricoid pressure, laryngoscopy grade, ETT size + length at teeth, type of laryngoscope used, monitoring used (including etCO<sub>2</sub>), ventilator settings and any complications.

**Results:** In the 6 week study period, there were 15 intubation episodes identified and reviewed (12 on ICU, 3 in ED). See attached table for full results.

|                           | Yes | No | % compliance |
|---------------------------|-----|----|--------------|
| Checklist used            | 5   | 10 | 33%          |
| Name of intubator         | 9   | 6  | 60%          |
| Grade of intubator        | 2   | 13 | 13%          |
| Airway assessment         | 0   | 15 | 0%           |
| Time of intubation        | 8   | 7  | 53%          |
| Drugs used                | 10  | 5  | 67%          |
| Drug doses                | 9   | 6  | 60%          |
| No of intubation attempts | 2   | 13 | 13%          |
| Use of cricoid pressure   | 6   | 9  | 40%          |
| Laryngoscopy grade        | 9   | 6  | 60%          |
| ETT size                  | 9   | 6  | 60%          |
| Length at teeth           | 11  | 4  | 73%          |
| Laryngoscope type used    | 1   | 14 | 7%           |
| Monitoring used           | 4   | 11 | 27%          |
| Ventilator settings       | 7   | 8  | 47%          |
| Complications             | 1   | 14 | 7%           |

**Discussion:** The lowest performing domain was airway assessment (0%). The explanation for this is likely in part due to the acutely unwell nature of ICU patients making airway assessment more challenging than in an elective setting. Another particularly low scoring domain was the use of a pre-procedure checklist (33%). Considering the NAP findings associating adverse airway events with poor airway assessment and planning, these are concerning findings, and unlikely to be isolated to this hospital. We suggested education to promote the routine use of a pre-intubation checklist that incorporates an airway assessment and procedural plan.

**REFERENCE:** Major complications of airway management in the UK: results of the Fourth National Audit Project of the Royal College of Anaesthetists and the Difficult Airway Society. Part 2: intensive care and emergency departments, Cook, T.M. et al., British Journal of Anaesthesia, Volume 106, Issue 5, 632-642.

### PP.01.37

#### The value of three-dimensional echocardiography in the evaluation of cor triatrium sinister

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**Introduction:** Cor triatrium sinister is a very rare congenital heart disease in which the pulmonary veins enter a proximal accessory left atrial chamber that is separated from a distal true left atrial chamber by a fibromuscular membrane presenting one or more ostia. Its incidence in the adulthood is extremely rare. Adult patients are symptomatic in case the orifice across the membrane becomes obstructive mimicking a mitral stenosis. It has been reported that severe obstruction is present if maximum doppler velocity across the orifice is more than 2 m/s.<sup>1</sup> However, in a review of case series no correlation could be found between the pressure gradient across the fenestration and the clinical symptoms.<sup>2</sup> We report the case of a symptomatic adult female with obstructive cor triatrium in whom the intraoperative three-dimensional transesophageal echocardiography (3D TEE) revealed the severity of obstruction in contrast to the mild intraoperative pressure gradients.

**Methods:** A 34-year-old female was scheduled for surgical repair of a cor triatrium sinister. The symptoms of dyspnea had increased during the last months (NYHA III) which resulted in the echocardiographic diagnosis. The mean pressure gradient across the orifice was estimated 6 mmHg at rest and 18 mmHg at effort using modified Bernoulli equation.

There were no associated cardiac abnormalities and no signs of pulmonary hypertension.

The patient gave written consent to present her case.

**Results:** The induction of anesthesia was performed with the aim to keep hemodynamic stability. The intraoperative TEE confirmed the diagnosis. Color flow across the orifice showed an aspect of rather laminar flow. The mean pressure gradient across the sole orifice was 2 mmHg. Three-dimensional en face view of the membrane permitted offline analysis of the lesion in several orthogonal planes and measurement of the effective opening area of the orifice which was 1.45 cm<sup>2</sup> (Fig 1).

**Discussion:** This case illustrates that pressure gradient across an obstructive cor triatrium may underestimate the true severity of the lesion as the blood flow may be low through the channel. Therefore, 3D echocardiography should be routinely performed in patients with cor triatrium in order to measure the exact maximal fenestration orifice area.

**REFERENCES:** 1. Vique GW et al. J Am Coll Cardiol 1987; 9:580-7. 2. Slight. RD, et al. Heart Lung and Circulation 2005; 14:8-12.

