National Audit Deep Sedation performed by Sedation Practicioners

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1. Introduction

In the Netherlands, moderate-to-deep sedation is performed by trained sedation practitioners (SPS) under indirect supervision of an anesthesiologist. To evaluate safety of this practice in the Netherlands a national registry of sedation related adverse events (AE) was established. Since the primary risk of sedation is airway related, we analysed all respiratory AEs from this registry.

2. Methods

The prospective registry included consecutive adult moderate and deep procedural sedation cases in 20 Dutch hospitals, both academic and district general, from the 1st of February 2015 - 1st of March 2016. The institutional ethical review board waived the requirement for informed consent. Data was collected with a modified world SIVA International Sedation Taskforce adverse event reporting tool¹ and is presented as descriptive statistics.

3. Results

11869 patients were included. Median age was 64 (range 18-100).

Most common co-morbidities were hypertension 31%, angina pectoris 13%, COPD 12% and diabetes mellitus 11%

Performed procedures:

Colonoscopy	27%	Sleep endoscopy	3%
OGD	21%	Interventional radiology	2%
ERCP	15%	EBUS	2%
Electrocardioversion	9%	Bronchoscopy	2%
Gynaecological	5%	TEE	1%
Pulmonary vein isolation	4%	Other	2%

3. Results

Total number of incidents during sedation: 1324 (11%). There were 1138 (9.5%) **respiratory incidents**, 95% needed intervention

Respiratory incidents:

Desaturations 4.9%
Airway obstruction 3%
Apnoea 1.3%
Vomiting 0.3%
Aspiration 0.05%

Respiratory interventions:

Procedures with greatest risk of incident during procedure:

Bronchoscopy 26%
EBUS 28%
EBUS + bronchoscopy 24%
Pulmonary Vein Isolation 27%
Pulmonary Vein Isolation + TEE 45%

Outcome in total group: 17 hospital admissions (0.14%):

2x cardiac arrest	3x aspiration
-air embolus PVI	2x anaphylaxis
-oesophageal dilatation	4x respiratory compromise
1x Cardiac tamponade (ablation)	4x hypotension requiring vasopressors
1x AV-block	

Mortality < 0.008%

4. Discussion

The lack of uniform international definitions of sedation related adverse incidents complicates comparison with international literature. The reported incidence of hypoxia during moderate/deep propofol sedation is 4.7% ² versus 4.9% in this study with more ASA 3 & 4 patients and more high risk procedures. From this study we conclude that SPS are able to effectively manage airway problems during sedation.

5. Conclusion

PSA performed by trained SPS is associated with complication rates as reported in literature.² On-going evaluation of care processes is required to ensure further performance improvement.

1. Mason KP, Green SM, Piacevoli Q; International Sedation Task Force. Adverse event reporting tool to standardize the reporting and tracking of adverse events during procedural sedation: a consensus document from the World SIVA International Sedation Task Force. Br J Anaesth 2012;108:13-20. 2. Slagelse C, Vilmann P, Hornslet P, Hammering A, Mantoni T. Nurse-administered propofol sedation for gastrointestinal endoscopic procedures: first Nordic results from implementation of a structured training program. Scand J Gastroenterol 2011; 46: 1503-9.