Multicenter audit of Perioperative and Anesthetic Adverse events in Thailand (PAAAd Thai):mortality and critical incidents

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Background and Goal of Study:

The Royal College of Anesthesiologists of Thailand initiated a registry study of anesthesia and adverse outcomes in Thailand since 2005. In 2015, the Perianesthetic Anesthetic Adverse Events Study in Thailand (PAAAd Thai) was conducted to investigate patients, surgical, anesthetic profiles and to determine suggested strategies for prevention of adverse events.

Materials and Methods: A prospective descriptive study was conducted in 22 hospitals across Thailand. Each hospital was invited to report, on an anonymous and voluntary basis, any perianesthetic adverse incident and monthly statistics of main anesthetics performed between January 1, and December 31, 2015. A standardized incident report form was required to be completed. Reports were analyzed by 3 senior anesthesiologists. Descriptive statistics was used.

Results and Discussion: Among 333,219 cases, 2,206 incident reports with 3,028 critical incidents were reported. The incidents commonly occurred in male (52.0%), age under 10 y (13.0%), age more than 70 y (18.2%). The incidence of common adverse events were cardiac arrest within 24 h (15.5:10000), death (13.0:10000), oxygen desaturation (13.9:10000), reintubation (11.1:10000), early and late esophageal intubation (8.5:10000), difficult intubation (8.0:10000), severe cardiac arrhythmia (14.0:10000), drug error (3.2:10000), etc. Surgical specialties that posed high risk of incident were general, cardiothoracic, neurological and otorhinolaryngological surgery. Common locations that incidents occurred were operating room, recovery room.

Conclusion(s): Cardiac arrest within 24 h decreased by half within a decade. Common factors related to incidents were inexperience, emergency, inadequate preanesthetic evaluation, inappropriate decision, lack of vigilance and experienced assistant. Suggested corrective strategies were guidelines, quality assurance activity, additional training, improvement of supervision and communication.

	N	Incidence
Pulmonary aspiration	33	1.3 : 10000
Pulmonary embolism	17	0.5 : 10000
Esophageal intubation	184	8.5 : 10000
Endobronchial intubation	24	1.1 : 10000
Desaturation	465	13.9 : 10000
Re-intubation	240	11.1 : 10000
Difficult intubation	173	8 : 10000
Failed intubation	16	0.7 : 10000
Awareness	10	0.4 : 10000
Coma /CVA/Convulsion	53	1.5 : 10000
Nerve Injuries	21	0.6 : 10000
Suspected MI/Ischemia	34	1.0 : 10000
Severe Arrhythmia	467	14.0 : 10000
Anaphylaxis /Anaphylactoid	79	2.3 : 10000
Equipment Malfunction/Fail	47	1.4 : 10000
Anesthesia Personnel Hazard	17	0.6 : 10000
Tranfusion Mismatch	7	0.2 : 10000
Wrong patient,site,surgery	6	0.18 : 10000
Drug Error	107	3.2 : 10000
Cardiac Arrest (24 hr all causes)	534	15.0 : 10000
Death (24 hr all causes)	467	14.0 : 10000
Malignant Hyperthermia	1	1.0 : 200000