Incident reports from anesthesia in morbid obesity according to PAAAd Thai study

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Background

In 2015, January 1st to December 31st, the Royal College of Anesthesiologists of Thailand (RCAT) contributed the multicenter study, the Perioperative and Anesthetic Adverse Events in Thailand study (PAAAd Thai) in 22 hospitals across Thailand.

Objective

To determine the frequency of incidents related to anesthetic complications, contributing factors and corrective strategies in patients whose BMI were equal or over 35 kg/m²

Methods

This prospective study was part of multicenter study. After being approved by every institutional ethical committee, written informed consent were waived, each hospital was asked to anonymously report incidence of anesthesia related adverse events which occurred during 24 hours. Patient were selected from the BMI equal or over 35 kg/m². undergoing surgeries. These incident reports were discussed and analyzed by three reviewers for contributing factors, clinical courses, factors minimizing incident and suggested corrective strategies.

Results

There were 58 cases (2.63%) from a total 2,206 reports of PAAAd Thai study. Seventy eight incidents occurred from 3,028 critical incidents reports (2.57%). 36.21% were male and 63.79% were female. The average age was 39.96 year and BMI was 39.8 ± 5.09 kg/m². The highest incidence occurred in patients with BMI 35-39.9 kg/m² (65.52%). 53.45% were classified as ASA physical status 3. The adverse events were found more frequent in elective surgery (40 incidents or 68.96%) than emergency surgery. General surgery with explore laparotomy had the higher incidents compared to other surgical specialties. Oxygen desaturation was the most common incident. Severe arrhythmia, difficult intubation and cardiac arrest in 24 hour postoperatively were found in the same frequency. Overall contributing factors from this report were inadequate preanesthetic evaluation and preparation, haste, inexperience and inappropriate decision. Having experiences, more vigilance and have experienced assistant or effective supervision might be the factor for minimizing outcomes.

Conclusion

Increasing the obesity and morbid obesity population in our society require much more concern not only the physiological changes but also the diseases that come along with. The majority of adverse events is respiratory event which is oxygen desaturation. Contributing factors in most complications found associated with haste and inadequate patient preparations which could be preventable. For anesthesiologists, perioperative management of obese patients should have high vigilance and need more skills. Specific scoring systems for evaluate risks prior to each procedure must be considered. Improving personal competency care in post anesthesia care unit (PACU) may help reduce the reintubation events by increasing personal and revised protocol used in PACU. The standard practice guidelines, improve supervision, additional training and also frequently organize the quality assurance activity can minimized the adverse events and help improve quality and patient safety undergoing anesthesia in obese patient.

Critical incidents which commonly occurred.

Demonstrate overall contributing factors, Factor minimizing outcomes and Suggestive corrective strategies

Contributing factors

Inexperience 35%
Emergency 18%
Inadequate preanesthetic evaluation and preparation 35%
Haste 20%
Inappropriate decision 30%
Lack of knowledge 2.3%
Equipment malfunction 4%
Miscommunication 3%

Factor minimizing outcomes

Vigilance 33%
Having experience 38%
Experienced assistant/ effective supervision 40%
Effective communication 8%
Follow practice guideline 4%
Proper monitoring and maintenance 2%

Suggestive correcting strategies

Practice guidelines 22%
Additional training 30%
Improve supervision 45%
Quality assurance activity 18%
Effective communication 6%
Surgical safety checklists 1%
More manpower 4%