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Anaesthesia Error in United States: Reasons for Mismanagement

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Abstract

Medical error is an all too common occurrence in the United States. Specifically, medical error and mismanagement of anaesthesia can have lifelong and potentially fatal consequences for patients. Furthermore, medication mistakes cost nearly $21 billion annually in the United States, and 100% of surveyed anaesthesiologists above the age of 70 reported that one of their mistakes resulted in a medical malpractice lawsuit (NEHI, 2002; Peckham, 2016). A literature review was conducted to investigate the scope and significance of anaesthesia error in the United States, reasons for errors and mismanagement of anaesthesia, and current policies in place to protect patients from anaesthesia error. We found that patients characterized by obesity, diabetes and asthma were most vulnerable to anaesthesia error. Furthermore, errors in judgement and failure to check and monitor equipment both were major reasons for anaesthesia error. Recommendations for further preventing these types of errors were provided.

Background & Significance

- Nearly 21 million North American patients receive anaesthesia each year, which puts them at risk for complications that arise from anaesthesia mismanagement.
- Annualy, there are 20,000-40,000 cases of wakefulness under anaesthesia, 70% of which lead to PTSD.
- Anaesthesia alone is responsible for death in 1 of every 200,000 patients that receive it.
- Financial costs of medication errors are estimated at $21 billion annually.
- By the age of 70, nearly all anaesthesiologists will have faced a medical malpractice lawsuit.

Findings

FACTORS LEADING TO ERROR
- Obesity, Diabetes, Asthma and Pediatric complications are the leading challenges for anaesthesia resulting in medical error.
- There are no studies or evidence-based guidelines for the maximum doses for obese patients.
- Intubation of the Diabetic patient’s food intake can also intensify their symptoms but, due to the sedation, can go undetected and missed during the surgery.
- Patients with asthma are ultimately at an increased risk for a life-threatening bronchospasm occurring during surgery.
- Equipment problems leading to errors include inability to ventilate, failure to deliver adequate oxygen, and/or misleading information from monitors.
- Dosage is based on weight, age, gender, physical and mental conditions of that patient.

STUDIES
- Investigated the rate of anesthetic related problems between 2002 and 2004 at Birmingham Children’s Hospital.
- Of the 28,023 procedures performed, 668 incidents occurred. After assessing each incident, it was determined 284 incidents originated from human error.
- An error of judgement accounted for 122 of these cases (43%).
- Inadequate depth of anaesthesia
- Inavisdable anesthetic technique
- Anaesthetizing child with URTI
- Trachea extubated at wrong time
- The failure to check or monitor equipment during surgery accounted for 50 of these cases (17.6%).
- Another study conducted by the Japanese Society of Anaesthesiologists (JSA) recorded 233 incidents of medication errors at their institution over 8 years. Of the 233 incidents, 25% were made by overloading (Yamamoto et al., 2008).

Methods

- The following are the phrases searched to identify articles: “intraoperative awareness”, “wakefulness during surgery”, “anaesthesia mismanagement”, “obesity and anaesthesia”, “costs of medication mistakes,” “polices,” and “anaesthesia medical error.”
- Sources were found using key phrase searches in several online databases. Articles were included based on their overall relevance to the discussed topic, as well as their legitimacy in the academic community.

Current Measures

- We know that anesthesia mistakes are a common occurrence in the United States and can cause harm.
- Implementation of procedures, such as a checklist, for the anesthesiologist to follow would help reduce opportunities for errors.
- Support groups and discussion panels would allow physicians to learn from mistakes.
- Better monitoring for at risk patients while under sedation.
- Initiating a checks and balance system between Physician and Pharmacist communication.
- Electronic record dosage calculation confirmation for pediatric patients to prevent overdose.

Discussion & Recommendations

The healthcare system has in fact become a double-edged sword in too many cases. The incredible advancements that we have gained in medicine and medical care, such as sedation techniques and procedures for safety, are still accompanied by many medical errors that interrupt and put those advancements at a standstill for periods of time. It is crucial that we devote time, research and policies towards ensuring the decrease of preventable medical errors in the mismanagement of anaesthesia during surgery.

Conclusion

References

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