

Original Article

The frequency and nature of drug administration error during anaesthesia in a Chinese hospital

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Abstract

Background

Throughout the world, drug administration error remains a known and significant threat to patients undergoing anaesthesia. Estimates of the extent of the problem vary, but few are based on large prospectively collected datasets. Furthermore, little is known about whether differences in work culture are important in error rates.

Methods

A prospective incident monitoring study was conducted at a large tertiary hospital in China to estimate the frequency of drug administration error during anaesthesia. Anaesthetists were asked to return a study form anonymously for every anaesthetic, indicating whether or not a drug administration error had occurred, including incident details if affirmative.

Results

From 24,380 anaesthetics, 16,496 study forms were returned (67.7% response rate), reporting 179 errors. The frequency (95% confidence interval) of drug administration error was 0.73% (0.63% to 0.85%) based on total study anaesthetics and 1.09% (0.93% to 1.26%) based on total forms returned. The largest categories of error were omissions (27%), incorrect doses (23%) and substitutions (20%). Errors resulted in prolonged stay in recovery for 21 patients, transfer to the ICU for five and one case each of haemorrhagic shock and asthmatic attack. More respondents who were not fully rested reported inattention as a contributing factor to error (21%) than those who were fully rested (7%, $P = 0.04$).

Conclusion

Our results are comparable with other international prospective estimates indicating that drug administration error is of concern in China as elsewhere. These results will form a baseline from which to detect the effects of countermeasures.