Pilot Study for Rate of Exchanged of Cuffed Endotracheal Tube

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Background and Objective: Cuffed endotracheal tube was introduced to use safely in pediatric, recently there was no specific formula to calculate the cuffed tube size. Expert opinion suggested reducing size from uncuffed endotracheal tube formula [Age(Years)/4] + 4 for 0.5-1 number for cuffed endotracheal tube. Both reducing size were not have been studied comparing of the exchange rate of cuffed endotracheal tube between two formula. This pilot study use the Motomoya's formula (Aged/4+3.5) to calculate size of cuffed endotracheal tube to study of exchanged rate.

Methods: Fifty pediatric patients who had been elective surgery under general anesthesia at Srinagarind Hospital. Pediatric patients aged between 2-10 years old, ASA physical status 1-2, whom not associated with difficult airway or have risk for pulmonary aspirated. Cuffed endotracheal tubes' size were calculated by Motomoya's formula (Aged/4+3.5) and intubated by experienced anesthetic personnel. (Patients aged between 2-3.5, 3.5-5.5, 5.5-7.5, 7.5-9.5 and 9.5-10 years old used cuffed ETT no 4, 4.5, 5, 5.5 and 6 respectively.)

Results: All of the patients were success intubated of cuffed endotracheal tube (formula : size = aged/4 + 3.5), Exchange rate was zero. The mean of end tidal CO_2 was 34.1 mmHg ($\pm$2.43). The mean of peak airway pressure 16.86 mmHg ($\pm$3.86). No immediated complication.

Conclusion: These may conclusion that Motomoya's formula is proper for calculated size of cuffed ETT for pediatric aged 2-10 years old. But need larger population for futher study.

Keywords: Pediatric, Cuffed endotracheal tube, Size, Number

Oral