

Tanggapan kardiovaskular dan kebutuhan manuver BURP saat laringoskopi perbandingan CMAC dan macintosh konvensional = Cardiovascular response and BURP maneuver during laryngoscopy comparison between CMAC and conventional macintosh

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Abstrak

Latar Belakang : Peningkatan tekanan darah dan laju nadi merupakan komplikasi tersering saat laringoskopi dan dapat mengakibatkan komplikasi yang berat. Obatobatan yang selama ini digunakan tidak selalu efektif menekan tanggapan kardiovaskular. Memperbaiki teknik laringoskopi dengan menggunakan video laringoskop CMAC® diperkirakan dapat mengurangi tanggapan kardiovaskular karena memberikan visualisasi laring yang lebih baik dibandingkan teknik lain. Manuver BURP lazim digunakan untuk menurunkan nilai Cormack-Lehane namun juga memberi rangsang nyeri saat laringoskopi.

Tujuan : Membandingkan tanggapan kardiovaskular dan kebutuhan manuver BURP saat laringoskopi antara penggunaan video laringoskop CMAC® dengan Macintosh Konvensional.

Metode : Uji klinis acak tersamar tunggal. Seratur tiga puluh sembilan pasien yang akan menjalani anestesia umum dengan intubasi endotrakea dibagi ke dalam 2 kelompok. Kelompok kontrol (Macintosh Konvensional) dan kelompok perlakuan (CMAC®). Kriteria inklusi adalah usia 18-65 tahun, status fisik ASA 1 atau 2, tanpa penyulit jalan napas. Parameter kardiovaskular (sistolik, diastolik, TAR, dan laju nadi) diukur sebelum induksi (T1). Midazolam 0.05 mg/KgBB dan Fentanyl 2 mikrogram/kgBB diberikan 2 menit sebelum induksi. Induksi anestesia menggunakan Propofol 1 mg/kgBB dan dilanjutkan infusi manual Propofol 10 mg/kg/jam. Setelah reflek bulu mata menghilang, diberikan Atrakurium 0,8-1mg/KgBB. Parameter kardiovaskular (T2) diukur ulang setelah nilai TOF mencapai 0 lalu dilakukan laringoskopi. Saat laringoskopi menunjukkan nilai Cormack-Lehane 1 atau 2 (dengan atau tanpa manuver BURP) dilakukan pengukuran ulang parameter kardiovaskular (T3).

Hasil : Uji-T tidak berpasangan menunjukkan rerata perubahan kardiovaskular saat laringoskopi lebih rendah pada kelompok CMAC® dibandingkan pada kelompok Macintosh Konvensional ($p < 0,005$). Interval kepercayaan 5,58-14,44 (sistolik), 2,93-9,54 (diastolik) 3,86-10,7 (TAR), dan 2,26-8,66 (laju nadi). Kebutuhan Manuver BURP lebih sedikit (13,9%) pada kelompok CMAC® dibandingkan Macintosh Konvensional (40,3%) dengan uji K-kuadrat ($p < 0,05$).

Simpulan : Tanggapan kardiovaskular dan kebutuhan manuver BURP saat laringoskopi lebih rendah secara bermakna pada penggunaan CMAC® dibandingkan dengan Macintosh Konvensional.

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Background : Increased blood pressure and heart rate are the most frequent response to laryngoscopy. Sometimes it can cause serious complications. Medications are used to blunt these responses, but most of them are not yet effective. Improving laryngoscopy technique by using CMAC® video assisted

laryngoscope seems promising since it significantly gives better visualization of larynx compared to other. BURP maneuver is used to lower Cormack-Lehane level but it can cause additional pain stimulation during laryngoscopy.

Objective : To compare the cardiovascular response and the needs of BURP maneuver during laryngoscopy between CMAC® and Conventional Macintosh.

Method : Randomised, single blinded, control trial. One hundred thirty nine patients who underwent general anesthesia with endotracheal intubation were randomised into two groups. Control group (Conventional Macintosh) and intervention group (CMAC®). Inclusion criteria are 18-65 years old, ASA 1 or 2 physical status, without any airway problem. Cardiovascular parameters (systolic, diastolic, MAP, and heart rate) were measured prior to induction (T1). Midazolam 0.05 mg/Kg and Fentanyl 2 micrograms/kg were given 2 minutes before induction. Propofol 1 mg/kg and followed by propofol infusion of 10 mg/kg/hour were given to induce anesthesia. After eyelid reflex disappeared, we give Atracurium 0.8-1 mg/kg. After TOF reached 0, we remeasured cardiovascular parameters (T2) and proceeded to laryngoscopy. When laryngoscopy shows Cormack-Lehane 1 or 2 (with or without BURP maneuver), cardiovascular parameters were remeasured (T3).

Results : Unpaired T-test shows that cardiovascular response during laryngoscopy were lower in CMAC® group compared to Conventional Macintosh group ($p < 0.05$). Confidence interval 95% were 5,58-14,44 (systolic), 2,93-9,54 (diastolic), 3,86-10,7 (MAP), and 2,26-8,66 (heart rate). Chi square test shows BURP maneuver was less needed in CMAC® group compared to Conventional Macintosh group (13.9% vs 40.3%, $p < 0.05$).

Conclusion : Cardiovascular response and BURP maneuver during laryngoscopy with CMAC® were significantly lower compared to Conventional Macintosh.