Perbedaan distribusi ventilasi antara penggunaan positive end expiratory pressure 5 cmH2O dan 10 cmH2O pada pasien pascaoperasi dengan penilaian electrical impedance tomography = Distribution of ventilation difference between positive end expiratory pressure 5 cmH2O and 10 cmH2O in postoperative patients with electrical impedance tomography

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Abstrak

ABSTRAK
Latar Belakang. Atelektasis merupakan komplikasi pernapasan perioperatif yang sering terjadi hingga 24 jam pascaoperatif, namun dapat bertahan hingga beberapa hari. Penggunaan PEEP dapat membuka alveolus yang kolaps pascaoperatif. Penelitian ini berusaha membandingkan efek PEEP 5 cmH20 dan 10 cmH2O terhadap distribusi ventilasi pada pasien pascaoperatif menggunakan EIT.
Metoda. Uji klinis acak ini dilakukan di RS Cipto Mangunkusumo terhadap 35 pasien operasi kranioktomi dan laparotomi elektif (usia 18-60 tahun, durasi bedah > 3 jam, paru normal). Subjek dirandomisasi ke dalam 2 kelompok intervensi: ventilasi mekanik pascaoperatif PEEP 5 cmH20 (PEEP-5) dan PEEP 10 cmH2O (PEEP-10). Hipotesis penelitian adalah distribusi ventilasi PEEP-10 lebih baik dibandingkan PEEP-5. Parameter ∆TIV, ∆EELI (global dan regional) dan CR diambil dari monitor EIT PulmoVista 500®.
Hasil. Nilai ∆TIV antara bagian paru anterior dan posterior berbeda bermakna secara statistik pada menit ke-20 (p=0,012), namun masih ada subjek kelompok PEEP-5 dengan distribusi ventilasi tidak homogen hingga 1 jam pengukuran. Nilai ∆EELI global dan regional dalam 1 jam secara statistik bermakna dengan nilai p<0,05. Nilai ∆CR (anterior dan posterior) bermakna secara statistik (p=0,000) dalam 1 jam. Tidak ditemukan perbedaan ratio PF, lama intubasi dan lama rawat di UPI. Tidak ditemukan komplikasi paru/ekstraparu lain dan mortalitas.
Simpulan. Distribusi ventilasi berdasarkan gambaran EIT antara penggunaan PEEP 10 cmH2O dan PEEP 5 cmH2O tidak berbeda secara statistik dalam 1 jam penggunaan ventilasi mekanik pascaoperatif. Distribusi ventilasi hanya bermakna secara statistik pada menit ke-20.
pernapasan perioperatif
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ABSTRACT
Background. Atelectasis is the most common perioperative respiratory complications up to 24 hours postoperatively, but can last up to several days. PEEP can open postoperative alveolar collapse. We determined to compare the effect of PEEP 5 cmH20 and 10 cmH2O on distribution of ventilation in patients postoperatively using EIT.
Method. This randomized clinical trial conducted in Cipto Mangunkusumo Hospital to 35 patients underwent elective craniotomy and laparotomy (18-60 years of age, surgery> 3 hours, normal lung). Subjects were randomized into two intervention groups: postoperative mechanical ventilation PEEP 5 cmH20 (PEEP-5) and 10 cmH2O PEEP (PEEP-10). The hypothesis is distribution of ventilation PEEP-10 is better than PEEP-5. Parameter ΔTIV, ΔEELI (global and regional) and ΔCR were taken

from a monitor EIT PulmoVista 500®.
Results. ΔTIV values between anterior and posterior parts of lung statistically significant difference in the 20th minute (p=0.012), but there is still a subject of the PEEP group-5 which has a non-homogeneous distribution of ventilation up to 1 hour of measurement. The value of ΔEELI (global and regional) in 1 hour statistically significant with p <0.05. ΔCR value (anterior and posterior) was statistically significant (p = 0.000) in 1 hour. No differences found for PF ratio, length of intubation and duration of hospitalization in ICU. No pulmonary/extrapulmonaary complications and mortality were found.
Conclusion. Distribution of ventilation based EIT imaging between the use of PEEP 10 cmH2O and PEEP 5 cmH2O do not differ statistically within 1st hour of the postoperative mechanical ventilation. Distribution of ventilation is statistically significant only in the 20th minute.;Background. Atelectasis is the most common perioperative respiratory complications up to 24 hours postoperatively, but can last up to several days. PEEP can open postoperative alveolar collapse. We determined to compare the effect of PEEP 5 cmH20 and 10 cmH2O on distribution of ventilation in patients postoperatively using EIT.
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