

PENGARUH HIPERVENTILASI TERHADAP MEAN ARTERIAL PRESSURE INTRAOPERATIF PADA PASIEN KRANIOTOMI

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ABSTRAK

Latar Belakang : Trauma kepala merupakan masalah kesehatan global dengan Tingkat morbiditas dan mortalitas yang tinggi. *World Health Organization (WHO)* melaporkan lebih dari 50 juta kasus cedera otak traumatis setiap tahun. Stabilitas hemodinamik seperti *Mean Arterial Pressure (MAP)* sangat diperlukan untuk menjaga *Cerebral Perfusion Pressure (CPP)*. Penggunaan hiperventilasi untuk menurunkan tekanan intrakranial berpotensi mempengaruhi *MAP*.

Tujuan : Diketuinya pengaruh Hiperventilasi terhadap *Mean Arterial Pressure (MAP)* Intraoperatif pada pasien kraniotomi.

Metode : Penelitian menggunakan metode Observasional Analitik dengan pendekatan *Cohort Prospektif*. Pengambilan sampel menggunakan *Consecutive Sampling* dengan jumlah 62 sampel yang dibagi menjadi 31 sampel pada kelompok hiperventilasi dan 31 sampel pada kelompok non-hiperventilasi. Instrumen penelitian menggunakan lembar observasi. Hasil uji dianalisis menggunakan uji *Wilcoxon* dan *Mann-Whitney*.

Hasil : Penelitian menunjukkan pada kelompok hiperventilasi, nilai *MAP pretest* didominasi >95 mmHg (83.9%) dan 85-95 mmHg (16.1%), kemudian pada *posttest* menurun menjadi 75-85 mmHg (61.3%) dan <75 mmHg (38.7%). Pada kelompok non-hiperventilasi, *MAP pretest* berada pada kategori >95 mmHg (100%), Kemudian pada *posttest* menurun menjadi 75-85 mmHg (67.7%) dan 85-95 mmHg (32.3%). Hasil uji *wilcoxon* dan *mann-whitney* menunjukkan perbedaan yang signifikan ($p < 0,05$).

Kesimpulan : Terdapat pengaruh yang signifikan dari Hiperventilasi terhadap *Mean Arterial Pressure (MAP)* intraoperatif pada pasien kraniotomi.

Kata Kunci : Hiperventilasi, *Mean Arterial Pressure (MAP)*, Kraniotomi

THE EFFECT OF HYPERVENTILATION ON MEAN ARTERIAL PRESSURE INTRAOPERATIVE IN CRANIOTOMY PATIENTS

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ABSTRACT

Background : Head trauma is a global health problem with high morbidity and mortality rates. The World Health Organization (WHO) reports more than 50 million cases of traumatic brain injury every year. Hemodynamic stability such as Mean Arterial Pressure (MAP) is very necessary to maintain Cerebral Perfusion Pressure (CPP). The use of hyperventilation to reduce intracranial pressure can potentially affect MAP

Objective : To determine the effect of hyperventilation on intraoperative mean arterial pressure (MAP) in craniotomy patients

Methods : This study used an analytical observational design with a prospective cohort approach. A total of 62 participants were recruited using a consecutive sampling technique and were divided into two groups: 31 participants in the hyperventilation group and 31 participants in the non-hyperventilation group. Data were collected using an observation sheet and were analyzed using the Wilcoxon and Mann–Whitney tests.

Result : Research shows that in the hyperventilation group, pretest MAP values were predominantly >95 mmHg (83.9%) and 85-95 mmHg (16.1%), then in the posttest it decreased to 75-85 mmHg (61.3%) and <75 mmHg (38.7%). In the non-hyperventilation group, the pretest MAP was in the category >95 mmHg (100%), then in the posttest it decreased to 75-85 mmHg (67.7%) and 85-95 mmHg (32.3%). The results of the Wilcoxon and Mann-Whitney tests showed significant differences ($p < 0.05$).

Conclusion : There was a significant effect of hyperventilation on intraoperative Mean Arterial Pressure (MAP) in craniotomy patients.

Keywords : Hyperventilation, Mean Arterial Pressure (MAP), Craniotomy