Insidens hiponatremia pascaoperasi mayor pada anak di ruang perawatan intensif = Incidence of postoperative hyponatremia in pediatric intensive care unit / Nathanne Septhiandi

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Abstrak

[ABSTRAK
Latar belakang: Hiponatremia pasca tindakan operasi mayor pada populasi anak merupakan gangguan elektrolit yang sering terjadi. Penggunaan cairan yang belum tepat sering menimbulkan peningkatan kejadian hiponatremia yang berhubungan erat dengan meningkatnya berbagai komplikasi seperti edema otak, kejang, bahkan kematian. Populasi anak merupakan risiko tinggi karena perbandingan jaringan otak dan tulang tengkorak yang lebih besar sehingga ruang yang tersedia saat terjadi edema otak lebih sempit.
Tujuan: Mengetahui insidens hiponatremia pada anak pasca tindakan operasi mayor.
Metode: Studi retrospektif potong lintang dilakukan terhadap anak usia 1 bulan hingga 18 tahun yang menjalani tindakan operasi mayor dan masuk ruang perawatan intensif. Penelusuran status medik sesuai kriteria inklusi dilakukan sampai jumlah sampel terpenuhi. Pencatatan terhadap subjek yang meliputi data praoperasi, intraoperasi, serta pemantauan pascaoperasi dilakukan. Subjek yang memenuhi definisi hiponatremia (<135 mEq/L) diklasifikasikan sesuai derajat hiponatremia dan dilakukan pencarian lebih lanjut terhadap komplikasi.
Hasil : Studi dilakukan terhadap 90 subjek yang terdiri dari 56,7% lelaki, dengan 51,1% memiliki rentang usia 1 bulan hingga 4 tahun. Sebanyak 47,8% subjek menjalani tindakan laparatomi dengan berbagai indikasi. Hampir semua subjek (93,3%) mendapat cairan hipotonik pascaoperasi. Insidens hiponatremia pascaoperasi sebesar 28,9% dengan 11,1% diantaranya merupakan hiponatremia sedang-berat. Rerata kadar natrium pascaoperasi adalah 130,1 ± 4,1 mEq/L dengan rerata total cairan 79,8 ± 27,4 ml/kg. Sebesar 30,9% subjek yang mendapatkan cairan hipotonik pascaoperasi mengalami kejadian hiponatremia dengan rerata lama rawat 5,6 ± 4 hari. Terdapat 1/26 subjek yang mengalami komplikasi berupa kejang dan edema otak.
Simpulan: Insidens hiponatremia pasca tindakan operasi mayor di ruang perawatan intensif hampir mencapai 30% dan sebagian besar mendapat cairan hipotonik pascaoperasi. Penelitian lebih lanjut perlu dilakukan untuk mengevaluasi pemberian cairan pascaoperasi yang tepat untuk mencegah hiponatremia.
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ABSTRACT
Background: Hyponatremia is commonly found post major surgery in pediatric population. The use of improper fluid often leads to increasing incidence of hyponatremia which causes complications such as cerebral edema, seizure, and death. Pediatric is a high risk population due to the large ratio between the brain tissue and skull, so that the availability space.
Hyponatremia after major surgery in pediatric population is a common electrolyte disorder. The use of improper fluid often lead to increased incidence of hyponatremia which is closely linked to the increasing variety of complications such as cerebral edema, seizures, and even death. Pediatric is high risk population due to the larger comparison of brain tissue and the skull so that the space available in the event of brain edema narrower.

Objective: To describe the incidence of hyponatremia in children after major surgery.
Methods: A retrospective cross-sectional study was conducted on children aged 1 month to 18 years who underwent major surgery and entered the intensive care ward. The inclusion subjects was traced from medical records. The data was recorded from preoperative, intraoperative, and postoperative monitoring. Subjects who met hyponatremia (<135 mEq/L) were classified according to the severity of hyponatremia and its complications.
Results: Ninety subjects were enrolled in this study (56.7% male, 51.1% age 1 month-4 years). There were 47.8% subjects underwent laparotomy with a variety of indications. Almost all subjects (93.3%) received postoperative hypotonic fluid. The incidence of postoperative hyponatremia was 28.9%, while 11.1% among them were moderate-severe hyponatremia. The mean postoperative sodium levels was 130.1 ± 4.1 mEq/L with a mean total fluid 79.8 ± 27.4 ml/kg. There were 30.9% subjects who received hypotonic fluids and experienced hyponatremia with a mean length of stay 5.6 ± 4 days. One of 26 subjects with hyponatremia suffered from seizures and brain edema.
Conclusions: The incidence of postoperative hyponatremia in pediatric intensive care reached nearly 30%, and almost all of them received hypotonic fluid. Therefore, further research should be performed to evaluate the appropriate fluid in order to anticipating postoperative hyponatremia, Background: Hyponatremia is commonly found post major surgery in pediatric population. The use of improper fluid often leads to increasing incidence of hyponatremia which causes complications such as cerebral edema, seizure, and death. Pediatric is a high risk population due to the large ratio between the brain tissue and skull, so that the availability space.
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