Perbandingan Kadar Antibodi *Glutamic Acid Decarboxylase* Serum pada Anak Epilepsi Intraktabel dan Epilepsi Non Intraktabel

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ABSTRAK

Latar belakang : Epilepsi intraktabel merupakan kegagalan pemberian dua terapi adekuat dengan menggunakan obat anti epilepsi baik monoterapi atau terapi kombinasi untuk mencapai bebas kejang yang berkelanjutan. Kegagalan kontrol kejang menimbulkan efek medis, sosial, ekonomi, masalah perilaku dan hasil pendidikan akademis anak. Konfirmasi etiologi autoimun akan memasukan terapi imun sebagai bagian dari tatalaksana epilepsi yang membawa perbaikan klinis pada anak dengan epilepsi.

Tujuan : Membandingkan kadar *glutamic acid decarboxylase antibody* serum pada anak epilepsi intraktabel dan epilepsi non intraktabel di RSUD Dr.Soetomo Surabaya.

Metode : Studi kasus kontrol dilakukan pada anak epilepsi intraktabel dengan epilepsi non intraktabel antara November 2018-Januari 2019 di poli neurologi anak. Kadar *glutamic acid decarboxylase antibody* serum diperiksa dari kedua kelompok dengan ELISA. Analisis statistik menggunakan uji parametrik : Mann-Whitney U test.

Hasil : Delapan puluh anak menjadi sampel penelitian dan terbagi dalam dua kelompok. Rerata usia 5,4 th (4 bulan-17 tahun) dan rerata lama pengobatan OAE 2,3 tahun (3 bulan-13 tahun). Setiap kelompok terdiri dari 40 anak. Kadar *glutamic acid decarboxylase antibody* pada kelompok anak epilepsi intraktabel didapatkan lebih tinggi dari anak epilepsi non intraktabel, rentang 140-410 ng/ml (median 243,3) dan 10-120 ng/ml (median 98,10) dengan nilai $p<0.05$. Tidak didapatkan korelasi antara kadar GADA dengan frekuensi kejang dengan $r_s = 0,09$ (p:0,579) dan kadar GADA dengan lama terapi dengan $r_s = 0,179$ (p:0,113)

Kesimpulan : Anak dengan epilepsi intraktabel memiliki kadar *glutamic acid decarboxylase antibody* lebih tinggi dibandingkan anak dengan epilepsi non intraktabel tetapi tidak didapatkan korelasi antara kadar *glutamic acid decarboxylase antibody* dengan lama pengobatan dan frekuensi kejang.

Kata kunci : *glutamic acid decarboxylase antibody*, epilepsi intraktabel, anak.

Glutamic Acid Decarboxylase Serum Autoantibodies Levels Comparison on Pediatric Intractable and Non-Intractable Epilepsy

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ABSTRACT

Background: Intractable epilepsy is a failure to administer two adequate therapies using anti-epilepsy drugs, either monotherapy or combination therapy to achieve sustained seizure-free. Failure to control seizures affects medical, social, economic, behavior and academic education outcome. Autoimmune etiology confirmation would include immune therapy as part of the epilepsy management to improve medical service for children suffering from epilepsy.

Objective: Comparing glutamic acid decarboxylase autoantibodies serum levels in children suffering from intractable and non-intractable epilepsy in RSUD (General Hospital) Dr.Soetomo Surabaya.

Method: A case-control study was carried out on children suffering from intractable and non-intracellular epilepsy within November 2018-January 2019 period in the pediatric neurology outpatient clinic. Serum glutamic acid decarboxylase autoantibodies levels were examined from both groups utilizing ELISA. Statistical analysis used Mann-Whitney U test parametric tests.

Findings: Eighty children were taken as sample and were divided into two groups. The average sample age was 5.4 years (4 months-17 years). The average anti epileptic drug treatment duration was 2.3 years (3 months-13 years). Each group consisted of 40 children. Glutamic acid decarboxylase autoantibodies levels in the intractable group were higher compared to non-intractable group. It ranged between 140-410 ng/ml (median 243.3) and 10-120 ng/ml (median 98.10) with p values <0.05. There was no correlation between autoantibodies GAD levels and seizure frequency (r_s = 0.09 (p: 0.579)) and autoantibodies GAD levels with therapy duration (r_s = 0.179 (p: 0.113)).

Conclusion: Children suffering from intractable epilepsy possess higher levels of glutamic acid decarboxylase autoantibodies compared to non-intractable epilepsy. However, there is no correlation between glutamic acid decarboxylase autoantibodies levels with treatment duration and seizures frequency.

Keyword: *glutamic acid decarboxylase autoantibodies*, intractable epilepsy, children.