Hubungan hiperintensitas T2WI flair, asimetrisitas volume, nilai ADC hippokampus dengan lateralisasi kejang pasien epilepsi lobus temporal mesial = Association of hyperintencity T2WI flair asymetricity of volume ADC value with lateralization of seizure in mesial temporal lobe epilepsy

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Abstrak

[ABSTRAK
Tujuan: Studi ini merupakan studi MRI (Magnetic Resonance Imaging) untuk menilai hubungan asimetrisitas volume, hiperintensitas T2WI FLAIR dan nilai ADC hippokampus hubungannya dengan lateralisasi kejang. Pemeriksaan MRI sekuens rutin ditambah prosedur khusus pemeriksaan hipokampus yaitu sekuens T2WI Inversion Recovery dan T2WI Fluid-attenuated inversion recovery (FLAIR) dapat menilai volume hipokampus. Sekuens DWI (Diffusion Weighted Image) dan ADC (Appearent Difusion Coeffesient) merupakan pemeriksaan kuantitatif.
Metode: Penelitian potong lintang menggunakan data sekunder MRI kepala pasien dengan diagnosis epilepsi lobus temporal mesial. Dilakukan pengukuran volume pada potongan koronal sejajar sumbu hippokampus, mulai dari terlihat kepala hippokampus sebanyak 5 irisan. Melihat gambaran hiperintensitas T2WI FLAIR serta mengukur nilai ADC hippokampus dilakukan dengan meletakan ROI pada potongan aksial hippokampus terbesar pada ADC map. Analisis data dilakukan untuk menghitung nilai R Kappa hubungan masing masing variabel dan gabungan variabel.
Hasil: Jumlah subyek penelitian 54 orang, terdapat hubungan asosiasi yang cukup kuat (sedang) dan ipsilateral antara hiperintensitas T2WI FLAIR dan asimetrisitas volume dengan lateralisasi kejang dengan R Kappa sama sebesar + 0.52. Hubungan asosiasi yang lemah dan bersifat ipsi lateral dengan R Kappa + 0.37 antara nilai ADC dengan lateralisasi kejang. Hubungan asosiasi antara asimetrisitas volume dan asimetrisitas nilai ADC adalah kontralateral dengan hubungan asosiasi cukup kuat (sedang). Penentuan lateralisasi lesi dengan MRI pada masing masing variabel memiliki sensitivitas dan spesifisitas cukup tinggi. Hubungan asosiasi gabungan 2 dan 3 variabel adalah cukup kuat (sedang) dan bersifat ipsilateral, dengan nilai R Kappa, sensitifitas dan spesifisitanya yang lebih tinggi dibandingkan dengan hubungan masing masing variabel.
Kesimpulan: MRI memiliki peranan penting menentukan lateralisasi kejang. Menilai hubungan dari gabungan 2 dan 3 variabel didapatkan secara statistik lebih besar hubungannya dengan lateralisasi kejang dibandingkan dengan menghubungkan masing masing variabel secara terpisah, sehingga penilaian MRI yang dilakukan untuk ke 3 variabel ini akan lebih menguatkan diagnosis sisi hipokampus yang mengalami kelainan.
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ABSTRACT
Objective: This study is MRI (Magnetic Resonance Imaging) to assess the relationship asymmetry volume, T2WI FLAIR hyperintensity and hippocampal ADC values its relationship with the lateralization of seizures. Routine MRI examination sequences plus a special procedure that hippocampal examination

Inversion Recovery sequence T2WI and T2WI Fluid-attenuated inversion recovery (FLAIR) can assess hippocampal volume. Sequences DWI (Diffusion Weighted Image) and ADC (Appearent Diffusion Coeffesient) is a quantitative examination.
Methods: A cross-sectional study using secondary data MRI diagnosis of the patient's head with mesial temporal lobe epilepsy. Volume measurements performed on coronal slice axis parallel to the hippocampus, ranging from the visible head of the hippocampus as much as 5 slices. See picture T2WI FLAIR hyperintensity and measuring the ADC value hippocampus done by placing the ROI on axial cuts at the largest hippocampal ADC map. Data analysis was performed to calculate the value of R Kappa relationship each and combined variable.
Results: There is a fairly strong association relationship (medium) and ipsilateral between T2WI FLAIR hyperintensity volume and asymmetry with lateralization of seizures with R Kappa equal to + 0.52. A weak association relationship and are IPSI lateral with R Kappa + 0.37 between the ADC values with lateralization of seizures. Association relationship between volume and asymmetry value asymmetry ADC is contralateral to the association relationship is strong enough (medium). Determination of lateralization of lesions by MRI in each variable has a fairly high sensitivity and specificity. The combined association relationship 2 and 3 variables are strong enough (medium) and ipsilateral, with a value of R Kappa, sensitivity and spesifisitanya higher than the correlation of each variable.
Conclusion: MRI has an important role determining the lateralization of seizures. Assess the relationship of the combined second and third variables are statistically bigger obtained conjunction with lateralization of seizures compared to connecting each variable separately, so the MRI assessment carried out for 3 to this variable will further strengthen the diagnosis of hippocampal abnormalities., Objective: This study is MRI (Magnetic Resonance Imaging) to assess the relationship asymmetry volume, T2WI FLAIR hyperintensity and hippocampal ADC values its relationship with the lateralization of seizures. Routine MRI examination sequences plus a special procedure that hippocampal examination Inversion Recovery sequence T2WI and T2WI Fluid-attenuated inversion recovery (FLAIR) can assess hippocampal volume. Sequences DWI (Diffusion Weighted Image) and ADC (Appearent Diffusion Coeffesient) is a quantitative examination.
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