

1987 Fiscal Year Final Research Report Summary

The effect of antipsychotics on regional cerebral blood flow and metabolim - clinical and experimetal study.

Research Project

Project/Area Number

60570496

Research Category

Grant-in-Aid for General Scientific Research (C)

Allocation Type

Single-year Grants

Research Field

Psychiatric science

Research Institution

Toyama medical and pharmaceutical University (1986-1987)
Kanazawa University (1985)

Principal Investigator

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Project Period (FY)

1985 - 1987

Keywords

^{133}Xe inhalation / regional cerebral blood flow / haloperidol / ^{125}I -IMP / オートラジオグラフ

Research Abstract

1. Clinical study

To study the effect of antipsychotics on cerebral blood flow, we examined regional cerebral blood flow (rCBF) using ^{133}Xe inhalation technique in eleven patients (9 schizophrenics and 2 schizophreniform disorder; mean age, 22.9 years) before and about two weeks after medication. The measurements were also made with a two-week interval for ten normal volunteers without medication (mean age, 31.2 years). RCBF measurements showed good reproducibility in the normal controls. their mean hemispheric blood flow being between 49.8-51.4 ml/100g/min. RCBF in the patients after two-week's medication (haloperidol 2.25-6.0 mg/day or sulpiride 300mg/day) showed a statistically significant decrease in the left frontal and right temporo-parietal region

compared with that before treatment, but their mean hemispheric blood flow only showed a tendency to decrease. On the Brief Psychiatric Rating Scale, the score of suspiciousness has significantly decreased.

2. Experimental Study

The acute effect of antipsychotics on rCBF in 37 discrete regions of the rat brain was studied by the quantitative autoradiographic N-isopropyl-p-[125-I]-Iodoamphetamine technique. There was no significant difference in mean hemispheric blood flow between controls (172.1ml/ 100g/min) and haloperidol 0.1 or 1.0 mg/kg i.v. administered groups (180.8; 164.5). For the regional distribution value of the blood flow, bilateral habenular nucleus showed a significant increase, whereas, medial prefrontal cortex and nucleus accumbens showed a tendency to decrease. The effect of chronic haloperidol administration is not yet completed, but these clinical and experimental studies would contribute to the understanding of the antipsychotic effects of neuroleptics.

Research Products (2 results)

All Other

All Publications (2 results)

[Publications] Kurachi M, et al. edited by Takahashi et al: "Regional cerebral blood flow in patients with schizophrenic disorders. In: Cerebral dynamics, laterality and psychopathology" Elsevier, Amsterdam, 493-501 (1987) ▼

[Publications] Kurachi et al.;: Regional cerebral blood flow in patients with schizophrenic disorders : In : Cerebral dynamics, laterality and psychopathology (edited by Takahashi, et al). Elsevier, Amsterdam, pp9 493-501 (1987) ▼

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