

## うつ病患者のパロキセチン血中濃度と治療効果の関係における 5-HTTLPR 遺伝子多型の影響

**The Influence of 5-HTTLPR genotype on the association between the plasma concentration and therapeutic effect of paroxetine in patients with major depressive disorder**

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**Introduction:** The efficacy of treatment with selective serotonin reuptake inhibitors in patients with major depressive disorder (MDD) can differ depending on the patient's serotonin transporter-linked polymorphic region (5-HTTLPR) genotype, and the effects of varying plasma concentrations of drugs can also vary. We investigated the association between the paroxetine plasma concentration and clinical response in patients with different 5-HTTLPR genotypes. **Methods:** Fifty-one patients were enrolled in this study. The Montgomery-Asberg Depression Rating Scale (MADRS) was used to evaluate patients at 0, 1, 2, 4, and 6 weeks. The patients' paroxetine plasma concentrations at week 6 were measured using high-performance liquid chromatography. Additionally, their 5-HTTLPR polymorphisms (alleles S and L) were analyzed using a polymerase chain reaction with specific primers. We divided the participants into two groups based on their L haplotype: the SS group and the SL and LL group. We performed single and multiple regression analyses to investigate the associations between MADRS improvement and paroxetine plasma concentrations or other covariates for each group. This study was approved by the Ethics Committee of Hirosaki University Hospital, and the patients provided written, informed consent prior to participating. **Results:** There were no significant differences between the two groups with regard to demographic or clinical data. In the SS group, the paroxetine plasma concentration was significantly negatively correlated with improvement in MADRS at week 6. In the SL and LL group, the paroxetine plasma concentration was significantly positively correlated with improvement in MADRS at week 6 according to the results of the single regression analysis; however, it was not significantly correlated with improvement in MADRS at week 6 according to the results of the multiple regression analysis. **Conclusion:** Among patients with MDD who do not respond to paroxetine, a lower plasma concentration or a lower oral dose of paroxetine might be more effective in those with the SS genotype, and a higher plasma concentration might be more effective in those with the SL or LL genotype.