

Impact of Yuanzhi [*Radix Polygalae*] -Shichangpu [*Rhizoma Acori Tatarinowii*] Herb Pair on Night Cycle Behavior of Attention Deficit Hyperactivity Disorder (ADHD) Model Rats

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ABSTRACT Objective To explore the possible mechanism of Yuanzhi [*Radix Polygalae*, 远志] -Shichangpu [*Rhizoma Acori Tatarinowii*, 石菖蒲] herb pair in treating attention deficit hyperactivity disorder (ADHD). **Meth-**
ods Thirty spontaneous hypertension (SHR) rats were randomized into a model group, a positive control group and a Yuanzhi-Shichangpu group, with 10 rats in each group. Besides, a normal control group was established with 10 Wistar-Kyoto (WKY) rats. The Yuanzhi-Shichangpu group was given 4.76 mg/(kg·d) of Yuanzhi-Shichangpu sus-
pension by gavage. The positive control group was given 2 mg/(kg·d) of Ritalin suspension by gavage. The normal group and the model group were given 2 ml/(kg·d) of 0.5% sodium carboxymethyl cellulose solution by gavage. Medication was given in rats' night cycle (9:00—21:00) for 4 weeks. Spontaneous behavior of rats was evaluated by opening experiment at the time of before medication, medication for 4 weeks and withdrawal for 2 weeks. Rats' im-
pulsive behavior and learning-memory function were evaluated by elevated plus maze and new object recognition ex-
periments at 4 weeks of medication. Levels of dopamine in prefrontal cortex (DA) and dopamine transporter (DAT) were detected at 2 weeks of withdrawal. **Results** At 4 weeks of medication, rats' total movement distance and up-
right number in the opening experiment, as well as the percentage of opening arms times of entering the elevated cross maze and opening arm retention time in the Yuanzhi-Shichangpu group were lower than those in the model group ($P < 0.05$). While in the new object recognition experiment, the preference index for new objects was higher than that in the model group ($P < 0.05$). At 2 weeks of withdrawal, rats' total movement distance and upright number in the Yuanzhi-Shichangpu group were lower than those in the model group ($P < 0.05$), while DA level in prefrontal cortex was higher than that in the model group ($P < 0.05$). There was no significant difference in DAT levels between the Yuanzhi-Shichangpu group and the model group. of ($P > 0.05$). **Conclusion** Yuanzhi-Shichangpu herb pair might improve DA level in prefrontal cortex of ADHD rats, which might be one of the mechanisms of treating ADHD.

Keywords attention deficit hyperactivity disorder; Yuanzhi [*Radix Polygalae*, 远志]; Shichangpu [*Rhizoma Acori Tatarinowii*, 石菖蒲]; herb pair; dopamine; dopamine transporter

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第 35 次全国特色医疗名医学术交流暨老年病论坛通知

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