Effects of pregabalin on timed dose-response relationship of pain in model rats with obsessive-compulsive disorder

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Abstract: Objective To observe the effects of pregabalin on pain timed dose-response relationship (TDRR) in model rats with obsessive-compulsive disorder. Methods Twenty-four male SD rats were randomly divided into 3 groups, normal group (n=6), model group (n=9) and pregabalin group (n=9). Quinpirole (0.5 mg/kg, sc, twice daily×7) was given in rats of model group and pregabalin group. The paw withdrawal mechanical threshold (PWMT) with Von Frey Filaments and the tail-flick latency (TFL) with light radiant heat were measured before and after model preparing. The timed dose-response relationship (TDRR) of TFLs in rats was analyzed and compared. Then pregabalin injection (ip) was made in pregabalin group rats for 7 days. Equivalent volume of saline was used as control injection in other rats. On the 7th day of drug injection, the PWMT and TFL measurement was repeated. Results (1) The PWMT was significantly reduced after the model preparing (P<0.01). (2) The PWMT of pregabalin group rats increased after drug treatment (P<0.05), and were similar to that in normal group rats (P>0.05). (3) TFLs of rats in 3 groups were all shortened with increased light intensities, indicating hyperbola type-like TDRR, but the TDRR curves of 3 groups were similar (P>0.05). Conclusion Pregabalin may reduce the PMWT in obsessive-compulsive disorder model rats, but has no effects on TDRR of TFLs. [This work was supported by WNMC WK2016S09 and NSFC 31271155]

Keywords: obsessive-compulsive disorder; pain; timed dose-response relationship; pregabalin