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Therapeutic Effects of *Panax notoginseng* Saponins Against Atrial Fibrillation in Rats

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***SUMMARY*. This study aimed to investigate the therapeutic effects of *Panax notoginseng* saponins (PNS) against atrial fibrillation (AF) in rats. SD rats were randomized into control, model, 100 mg/kg PNS and 150 mg/kg PNS groups. The Ach-CaCl2-induced AF model was established in later 3 groups. From the 4th day, the later 3 groups were treated with 100 and 200 mg/kg PNS by intragastrical administration for 7 days, respectively. Compared with model group, in 150 mg/kg PNS group the duration of AF was shortened on the 6th, 8th, and 10th day and the atrial effective refractory period was prolonged; the serum GSH, SOD and TIMP-2 levels were increased, and MDA, TNF-α, ICAM-1 hs-CRP, and MMP-2 levels were decreased (all $p < 0.05$). PNS can mitigate the AF in rats, which may be related to its inhibition of oxidative stress and inflammatory response and regulation of MMP-2/TIMP-2 expressions.**

RESUMEN. Este estudio tuvo como objetivo investigar los efectos terapéuticos de las saponinas de *Panax notoginseng* (PNS) contra la fibrilación auricular (FA) en ratas. Las ratas SD se distribuyeron al azar en grupos PNS control, modelo, 100 mg/kg y 150 mg/kg PNS. El modelo de AF inducido por Ach-CaCl2 se estableció en los 3 últimos grupos, los que a partir del 4º día se trataron con 100 y 200 mg/kg de SNP mediante administración intragástrica durante 7 días, respectivamente. En comparación con el grupo modelo, en el grupo 150 mg/kg de PNS, la duración de la FA se acortó los días 6, 8 y 10 y el período refractario eficaz auricular fue prolongado; los niveles séricos de GSH, SOD y TIMP-2 aumentaron y los niveles de MDA, TNF-α, ICAM-1 hs-CRP y MMP-2 disminuyeron (todos $p < 0.05$). El SNP puede mitigar la FA en ratas, lo que puede estar relacionado con su inhibición del estrés oxidativo y la respuesta inflamatoria y la regulación de las expresiones de MMP-2/TIMP-2.

KEY WORDS: atrial fibrillation, MMP-2, *Panax notoginseng* saponins, TIMP-2.

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