

塩類下剤誘発下痢モデルマウスに対する五苓散の効果

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Effect of Goreisan on Diarrhea Model Mouse Induced by Saline Purgative

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ABSTRACT: Goreisan, a well-known hydrostatic modulating formulation, is used clinically in the treatment of edematous disorders. In this study, in order to clarify hydrostatic modulation in the intestine, we analyzed the effect of Goreisan in an experimental diarrhea model created by the single oral pretreatment of mice with magnesium sulfate. Ninjinto (166 mg/kg, p.o.) did not lead to improvements in this model, whereas Goreisan (133 mg/kg, p.o.) significantly abated the diarrhea.

The warm extraction (at 37°C, for 0.5 hr) of Goreisan showed anti-diarrheal activity that was significantly stronger than the decoction. On investigating the anti-diarrheal activity of Goreisan based on the difference in crude drugs made from *Atractylodis Rhizoma* (Byakujutsu) and *Atractylodis Lanceae Rhizoma* (Sojutsu), no distinction between Byakujutsu-Goreisan and Sojutsu-Goreisan was recognized. *Atractylodis Rhizoma*, *Polyporus*, *Poria*, and *Cinnamomi Cortex*, which were administered singly, showed anti-diarrheal activities, but these were weak in comparison with Goreisan. Concoctions in which either *Atractylodis Rhizoma*, *Polyporus*, *Poria*, *Alismatis Rhizoma*, or *Cinnamomi Cortex* were omitted from Goreisan showed decreased anti-diarrheal activity as compared with Goreisan. The anti-diarrheal activity was clearly lower in the concoctions of warm extractions whereby the five kinds of crude drugs were separately extracted compared with the warm extraction of Goreisan in which all crude drugs were extracted simultaneously.

These findings suggest that the anti-diarrheal activity of Goreisan in this model was not dependent on a specific crude drug, being optimal to extract the five kinds of crude drugs simultaneously.

抄録 最も代表的な利尿剤である五苓散は浮腫性の疾患によく用いられる。五苓散の腸管における利尿作用を明らかにする目的で、硫酸マグネシウムによる下痢モデルマウスに対する効果を検討した。このモデルに対して、対象薬の人参湯エキス顆粒 (166 mg/kg, p.o.) は効果がなかったが、五苓散エキス顆粒 (133 mg/kg, p.o.) は有意な止瀉作用を示した。五苓散の温水抽出物 (生薬末を 37°C、30 分抽出した凍結乾燥品) は熱水抽出物 (五苓散料の凍結乾燥品) に比べ有意な止瀉作用を示した。白朮五苓散と蒼朮五苓散の止瀉作用比較において、朮の違いによる差異は認められなかった。五苓散の構成生薬である白朮、猪苓、茯苓、桂皮は五苓散に比べ弱い傾向がみられるも

の、単味でも有意な下痢の改善を示した。五苓散から生薬を1種類ずつ抜いた一抜き五苓散はいずれも止瀉作用が低下した。五苓散変方（個別抽出した5種の生薬抽出物の混合品）の止瀉作用は、同時抽出した五苓散に比べて明らかに止瀉作用が減少した。これらのことから、この下痢モデルに対する五苓散の止瀉作用は特定の生薬によるのではなく、5種の生薬を同時抽出することが最も効果的であると示唆された。