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## Review of the Blood-letting Therapy Written in the Donguibogam

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### Abstract

**Objectives:** This study is designed to use a review of the literature recorded in the Donguibogam to improve the practical possibility of using Blood-letting therapy.

**Methods:** Records on Blood-letting therapy were extracted from the Donguibogam. First all articles containing the key words 'Hyul (血)' and 'Rak (絡)' were extracted. Of them, records associated with Blood-Letting therapy that had been cited and classified in terms of search patterns for Blood-Letting area, instruments for Bleeding-Letting, cautions and side effects for the practice, applicable symptoms, acupoints/extraordinary acupoints, and Blood-Letting areas were selected.

**Results:** The regions capable of Blood-Letting are generally engaged with abnormal skin color such as black, bluish red, dark purple, dark blue, etc. and with localized collection of fibrous exudate. Several instruments are used for Blood-Letting therapy: Samreongchim (三陵鍼), Chogyong (草莖), Pichim (鉞鍼), Lodaeguan (蘆管尖), Sachim (砂鍼), Saechim (細鍼), Gichim (螞鍼), Eunjam (銀簪), nail, etc. Several cautions and side effects of Blood-Letting therapy are presented. Blood-Letting therapy can be applied to a broad spectrum of symptoms. The body parts to where it had been applied were not only several acupoints but also effective points of the body.

**Conclusions:** This study shows that the Donguibogam presents Blood-Letting therapy in a clear fashion so as to enhance the convenience and practicality of its use.

**Key Words:** Donguibogam; blood-letting therapy; Hyul; Rak

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## Effect of Intravenous Injection of a Water Extract of Angelica Gigas Nakai on Gliosis in Middle Cerebral Artery Occlusion in Rats

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### Abstract

**Objectives:** Gliosis becomes a physical and mechanical barrier to axonal regeneration. Reactive gliosis induced by middle cerebral artery occlusion is involved with up-regulation of CD81 and GFAP (glial fibrillary acidic protein). The current study is to examine the effect of the Angelica Gigas Nakai (intravenous injection: 100 mg/kg twice in a day) on the CD81 and the GFAP levels in the brains of rats after middle cerebral artery occlusion.

**Methods:** Cerebral infarction was induced by using a middle cerebral artery occlusion. After intravenous injection of a water extract of Angelica Gigas Nakai, the size of the cerebral infarction was measured. Examinations with an optical microscope were also used to detect the expressions of CD81 and GFAP in the brain of the rat.

**Results:** We found that the size of the cerebral infarction induced by MCAO (middle cerebral artery occlusion) in rats was smaller after intravenous injection of Angelica Gigas Nakai. We injected an extract of Angelica Gigas Nakai to the MCAO in rats, and the optical microscope study showed that Angelica Gigas Nakai had protected the cells of the hippocampus. We found that the levels of GFAP, CD81 and ERK in the brains of rats with cerebral infarction after MCAO were meaningfully decreased after intravenously injecting Angelica Gigas Nakai. We found that c-Fos expression in the brains of rats with cerebral infarction after MCAO was significantly increased after intravenously injecting Angelica Gigas Nakai.

**Conclusions:** These results indicate that Angelica Gigas Nakai can suppress the reactive gliosis, which disturbs astrocyte regeneration in the brain of a rat with cerebral infarction after MCAO by controlling the expressions of CD81 and GFAP. The effect may also be modulated by the up-regulation of c-Fos and ERK.

**Key Words:** Angelica Gigas Nakai; gliosis; CD81; GFAP; MCAO; astrocyte; c-Fos; ERK

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