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Characterization of Fibrinolytic Proteases from Gloydius Blomhoffii Siniticus Venom

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Abstract
Objectives: This study was undertaken to identify fibrinolytic proteases from gloydius blomhoffii siniticus venom and to characterize the major fibrinolytic protease purified from the venom.
Methods: The venom was subjected to chromatography using columns of Q-Sepharose and Sephadex G-75. The molecular weights of fibrinolytic proteases showing a fibrinolytic zone on the fibrin plate assay were determined in SDS-PAGE (sodium dodecyl sulfate-polyacrylamide gel electrophoresis) The effects of inhibitors and metal ions on fibrinolytic protease and the proteolysis patterns of fibrinogen, gelatin, and bovine serum albumin were investigated.
Results:

1. The fibrinolytic fractions of the three peaks isolated from gloydius blomhoffii siniticus venom contained two polypeptides each of 46 and 59 kDa and three polypeptides each of 32, 18, and 15 kDa and one major polypeptide of 54 kDa.
2. The fibrinolytic activity of the purified protease of 54 kDA was inhibited by metal chelators, such as ethylenediaminetetraacetic acid (EDTA), ethylene glycol tetraacetic acid (EGTA), and 1, 10-phenanthroline, and by disulfhydryl-reducing compounds, such as dithiothreitol and cysteine.
3. Calcium chloride promoted the fibrinolytic activity of the protease, but mercuric chloride and cobalt(II) chloride inhibited it.
4. The fibrinolytic protease preferentially cleaved Aα-chains and slowly elevated Bβ-chains of fibrinogen. It also hydrolyzed gelatin, but not bovine serum albumin.

Conclusions: The gloydius blomhoffii siniticus venom contained more than three fibrinolytic proteases. The major fibrinolytic protease was a metalloprotease that hydrolyzed both fibrinogen and gelatin, but not bovine serum albumin.
Key Words: gloydius blomhoffii siniticus; snake venom; fibrinolytic protease

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Review of a series of case reports on the Effect of Hand Acupuncture with a Focus on 29 Patients with Headaches

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Abstract
Objectives: Twenty-nine (29) case reports were reviewed to determine the possibility of using hand acupuncture as an effective treatment for headaches.
Methods: After approval from the Institutional Review Board (IRB), the medical records of 29 outpatients with headaches, who had visited the Oriental Medical Hospital from December 2008 to December 2010, who had undergone hand acupuncture treatment without other intervention, and who had been diagnosed with one disease listed in the international Classification of Headache Disease, second version (ICHD-2) were analyzed. The data were analyzed using the Wilcoxon signed rank test to determine whether hand acupuncture treatment affected the difference between the before-and the after-treatment Visual Analogue Scales (VASs) for various types of headaches and syndrome differentiation. The statistics program SPSS 18.0 was used. Differences were considered significant at $P < 0.05$.
Results: The VAS of patients with headaches was reduced after treatment with hand acupuncture from 6.57 ± 2.04 to 2.90 ± 2.04 for overall headaches, from 6.32 ± 2.05 to 2.47 ± 2.03 for tension-type headaches ($P < 0.001$), from 7.10 ± 2.18 to 3.70 ± 1.77 for migraines ($P < 0.001$), and from 6.00 ± 1.41 to 2.50 ± 3.54 for unspecified headaches. Hand acupuncture produced a decrease in VAS for both ascendant hyperactivity of liver yang ($P < 0.001$) and phlegm turbidity according to syndrome differentiation ($P = 0.002$). No adverse events were encountered in any of the patients.
Conclusions: We suggest that hand acupuncture may be effective in relieving headache, and may applicable as the first choice for acupuncture treatment of headaches.
Key Words: headache; hand acupuncture; tension-type headache; probable migraine

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