Study on the Circulation Path of Acupuncture Meridian (Bonghan System)

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Various tries to reveal physiological mechanisms and structures of acupuncture points and meridians were made in traditional and Western medicine. But, no specific anatomical structures of them were found before the reports of Dr. Kim, Bonghan in 1963. Recently, we have obtained the data of histological and morphological structures by using confocal laser scanning microscopy, electron microscopy, and immunohistochemistry. In this study, we examined the circulation path of skin to organ in Bonghan system. A hairless mouse (6 weeks old, 18-20g) was anaesthetized with rompun intramuscularly. The 23ul Alcian blue dye was injected at the CV-12 point for 115 minutes, with an injection rate of 0.20ul/min. After the injection was finished, the mouse was sacrificed. We found traces of Alcian blue inside thread-like structures from injection point to abdominal wall in the subcutaneous layer. In addition, other thread-like structures and corpuscles containing Alcian blue were found around pancreas and stomach in abdomen. The structures were examined by immunohistochemistry (α-SMA and PI antibodies) and DAPI staining. The thread-like structures and corpuscles contained the rod-shape nuclei, but these structures weren't stained by the α-SMA antibody. These results showed that the Alcian blue didn't flow along any blood vessels or lymphatic vessels but flow along specific structures, which have the same properties as those that Dr. Kim Bonghan mentioned on his research.

Even though the relationship between thread-like structures and acupuncture meridian is needed to study further, the Alcian blue dye which was found around digestive organs supported the theory of the acupuncture meridian, that the CV-12 is related with digestive organs. Future researches would be expected to reveal more effective and direct clues about mechanisms of acupuncture meridian and a drug delivery system toward target organ.

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