

NEWS

Demonstration of Bonghan Corpuscles and Ducts in Rabbits and Rats by Korean Scientists

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In the early 1960s, Bong Han Kim, a North Korean scientist and professor of Pyongyang Medical College, discovered that the acupuncture meridian system was represented by a system of microcapillaries (Bonghan ducts). His studies suggested that the meridian system is actually a physical microtubular network in which the microcapillaries serve as special ducts for a flowing liquid containing DNA granules [1,2]. For unknown reasons, no published reports by Dr. Kim appeared after 1965 and his work was abandoned and forgotten. In recent years, a group of scientists in South Korea have attempted to reinvestigate Dr. Kim's research findings. The existence of Bonghan ducts has been confirmed and they have been carefully analyzed in rabbit, rat, and human tissues using light and electron microscopy (for recent references, see [3]).

Two Korean scientists, Dr. Byung-Cheon Lee from the Department of Physics and Astronomy of Seoul National University and Dr. Min Su Kim from the Department of Veterinary Surgery, College of Veterinary Medicine, ChonBuk National University visited Professor Vodyanoy's laboratory during January 12–16, 2009. The main scope of the visit was to demonstrate surgical, microsurgical, and biochemical procedures for the removal and identification of Bonghan corpuscles and ducts developed in Professor Soh's laboratory (Biomedical Physics Laboratory, Department of Physics & Astronomy of Seoul National University). Experiments were carried out with two rabbits and five rats.

Professor Vodyanoy and four members of his research team have witnessed demonstrations of vascular structures that appear distinct from those belonging to the nervous, blood, and lymphatic systems. This new vascular system is vast and has specific and distinct structural and biochemical characteristics. Dr. Lee has also demonstrated separation

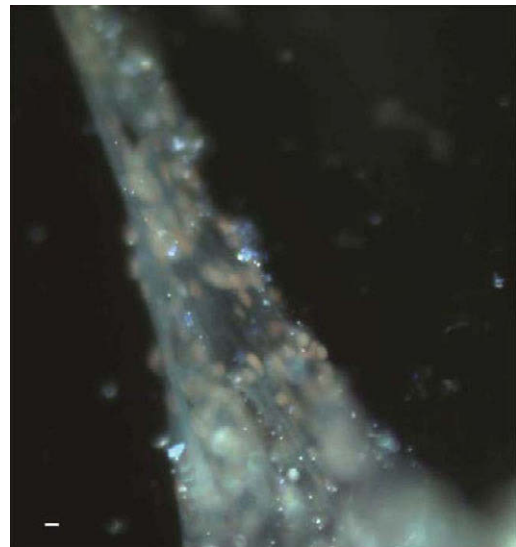


Figure Bonghan duct coming out of Bonghan corpuscle. The duct was composed of a large number of smaller tubes or tubules. Oblong nuclei were parallel to the duct axis. Bar is 10 microns.

of Bonghan granules (membrane bounded DNA-containing bodies) by homogenization of Bonghan corpuscles and ducts and subsequent differential centrifugation. Additionally, we observed main structures with a light microscope (Figure).

References

1. Kim, BH. *On the Kyungrak System*. Foreign Language Publishing House, Pyongyang, DPRK, 1964. [In English]
2. Kim, BH. *Kyungrak System and Sanal Theory*. Medical Literature, Pyongyang, DPRK, 1965. [In Russian]
3. Lee BC, Kim S, Soh KS. Novel anatomic structures in the brain and spinal cord of rabbit that may belong to the Bonghan System of Potential Acupuncture Meridians. *J Acupunct Meridian Stud* 2008;1:29–35.