Visualization of novel network structures (primo vascular system) in pericardial cavity of rabbit heart

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BACKGROUND Based on Bonghan Kim's work and our model, "Bonghan-Fascia Model" [1, 2], we found that networks of primo nodes (Bonghan corpuscles) and primo vessels (Bonghan ducts) exist in pericardial cavity of rabbit heart.

METHODS Rabbits were deeply anesthetized. Trypan blue (0.4%, TB) was *in vivo in situ* injected into pericardial space of a rabbit heart. Under stereomicroscope we observed the visualized primo vascular system (PVS). The isolated specimens were stained by DAPI or propidium iodide (PI).

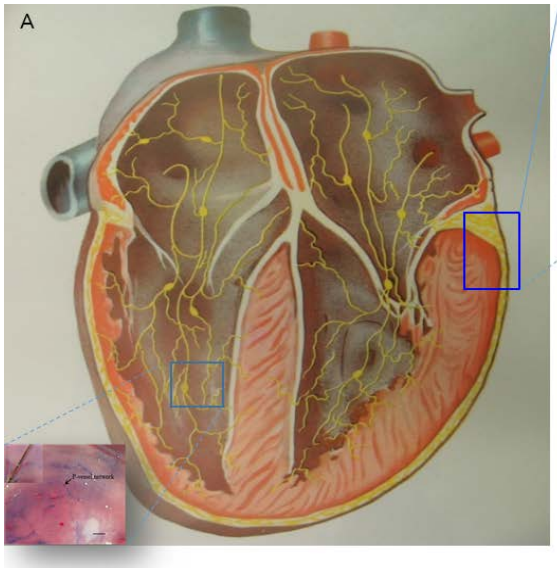
RESULTS Figure A shows an illustration of PVS of heart. The PVS is visualized above visceral pericardium of rabbit heart (Figure B, C). The inset of fig. C shows rod-shaped nuclei of primo vessel. Figure D and E demonstrate the comparative images of PVS stained by TB and PI.

CONCLUSION *In vivo in situ* staining of TB visualized primo vascular system (Bonghan system) in pericardial space of rabbit heart. Taken our data we suggest that heart primo vascular system (Bonghan system) is coexisted with heart fascia system as presented in our model [2].

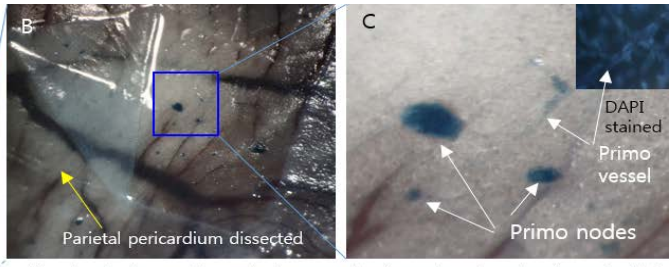
REFERENCES

[1] Kim BH. On the Kyungrak system. J Acad Med Sci DPR Korea 1963; 90: 1-35, 1963.

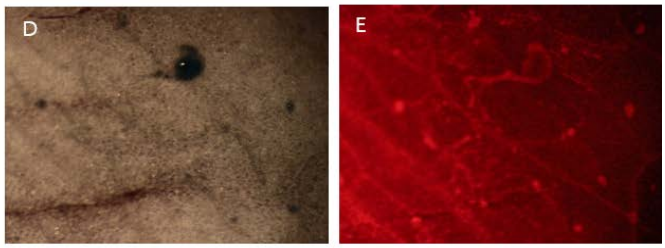
[2] Lee BC, Soh KS. A novel model for meridian: Bonghan systems combined with fascia (Bonghan-Fascia Model). In Proceedings, Fascia Research II: Basic Science and Implications for Conventional and Complementary Healthcare. Amsterdam: Elsevier, 2009:144.



Bonghan Kim's Illustration of primo vascular system inside and above rabbit heart. The inset is our previous work to show primo vascular system inside bovine heart



Visualized primo nodes and primo vessels above visceral pericardium of rabbit heart



Comparative images of primo vascular system between trypan blue (D) stained and propidium iodide stained (E) in pericardial cavity of rabbit heart.