

## Author's Reply

To the Editor,

We would like to thank the authors for their scientific comments related to our recently published article (1) entitled "Vagal denervation in atrial fibrillation ablation: A comprehensive review." published in Anatol J Cardiol 2017; 18:142-8. As mentioned by the authors, the inferior vena cava-left atrium fat pad (namely also ganglion C) located around the coronary sinus mainly provides vagal innervations and selectively innervates the atrioventricular node in humans (2, 3). Furthermore, this ganglion contains much more neurons than other ganglia (4). On the basis of this anatomical background, we only targeted ganglion C and performed the procedure using selective right atrial approach in patients with functional atrio-ventricular block (5, 6). Our selective right atrial approach was successful in six of seven patients. Considering the clinical features of failed case, this patient was the oldest patient in the study population. Therefore, we speculated that fibrosis of the conduction system due to advanced age may be the reason of unsuccessful ablation.

In their study, Khaet et al. (3) tried to reveal the importance of fat pads in the vagal control of the atrio-ventricular node. The study demonstrated that parasympathetic innervations of atrio-ventricular node were mainly provided by the integrity of the vagal ganglia but not directly by the right vagus nerve. This study may be a starting point for well-designed studies to clarify selective or integrative innervations principles of cardiac parasympathetic system.

We thoroughly agree with the authors' comments that there are some difficult questions that should be answered:

(1) Which is the best method to define the exact location of vagal ganglia?

(2) How can we achieve complete and permanent ablation?

(3) Is there any importance of long-term effect of unrequited sympathetic activity after denervation?

Future studies are needed to clarify all these dilemmas in patients with atrial fibrillation.

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