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DIFFERENTIAL DENSITIES OF CHOLINERGIC NERVES IN CANINE SUPRAVENTRICULAR REGIONS OF HEARTSLi Zhe, Zhao Qinyan, Huang Congxin *Wuhan University Renmin Hospital, Wuhan, China*

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Objective Cholinergic nerve plays an important role in the induction and maintenance of atrial fibrillation (AF). Cholinergic innervation at supraventricular tissues is considered to be the histological basis and ablation associated target site for the arrhythmia. However, there is a lack of research on distribution of cholinergic nerve in supraventricular tissues.

Methods We performed histological and immunohistochemical staining on canine tissues of left atrial appendage (LAA), right atrial appendage (RAA), left atrium (LA), right atrium (RA), atrial septum (AS), crista terminalis (CT), pulmonary vein (PV) and superior vena cava (SVC) using hematoxylin and eosin (H&E) and antibodies to choline acetyltransferase (ChAT).

Results Normal canine cardiovascular histological structures were shown from H&E staining. Cholinergic nerve densities at LAA and RAA were significantly higher than LA, which was higher than RA, but no significant difference was observed

between LAA and RAA. Furthermore, RA was significantly higher than AS, CT, PV and SVC while there were no significant differences among the latter four.

Conclusions The different densities of cholinergic nerve at canine supraventricular regions indicate that the heterogeneous property establishes the histological basis of cholinergic nerve mediated by pathological conditions. Structures with higher cholinergic innervation at supraventricular tissues are considered to be ablation associated target site for AF.