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WINDOW OF ATRIAL FIBRILLATION (AF) RECURRENCE AND ATRIAL ELECTRICAL REVERSE REMODELING IN CANINE MODELS WITH 48 HOURS AF INDUCED BY RIGHT ATRIAL PACING

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Objective To evaluate the atrial electrical remodeling, vulnerability to induced AF and AF recurrence with 24 h after cardioversion in canine pacing at right atrial for 48 h.

Methods Eighteen dogs were anaesthetised and intubated with room air. The dog heart was paced continuously at right atrial (600 bpm) for 48 h. The ERP of high right atrial, conduction velocity (CV), wave length (WL), heart rate adaptation of ERP and inducibility of AF were studied at the baseline, and at 0 h, 6 h, 12 h, 18 h as well as 24 h after right atrial pacing stop.

Results The inducibility of AF was increased from 18% at baseline to 74% at 48 h after pacing at right atrial, and 23% at 24 h after cardioversion ($p < 0.05$). The ERP of was 141 ms at baseline, 106 ms at 48 h after pacing at right atrial, 116.5 ms and 135.5 ms at 12 h and 18 h after cardioversion ($p < 0.05$). The CV was 83.74 m/s at baseline, 101.44 m/s at 48 h after pacing at right atrial, 94.38 m/s and 84.74 m/s at 12 h and 24 h after cardioversion ($p < 0.05$). The WL was 8.68 ± 1.14 at baseline, 5.84 ± 0.91 at 48 h after pacing at right atrial and 5.80 ± 1.82 at 48 h after cardioversion. The FA was 15.00 ± 3.94 at baseline, 0.89 ± 2.49 at 48 h after pacing at right atrial, 11.70 ± 3.56 and 15.90 ± 7.54 at 12 h and 48 h after cardioversion.

Conclusion Our findings suggest that in dogs with 48 h AF, the first 24 h after cardioversion is the window of AF recurrence.