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Methods 18 healthy male hybrid dogs aged 15–18 months were divided into three groups randomly, the control group (n=6), the Perindopril group (1 mg/kg/d, n=6), the Spironolactone group (10 mg/kg/d, n=6). To test the form and function of left atrial and plasma aldosterone levels before pacing and 4 weeks, 8 weeks after pacing, respectively. Observe the number of dogs maintained AF and duration of AF after cessation of pacing. Then, kill the animals and collect some tissues of left and right atrial to detect aldosterone levels and test the situation of atrial fibrosis by pathological examination. By comparing the similarities and differences between the three groups, to understand the impact of atrial interstitial remodelling and the occurrence and development of atrial fibrillation induced by aldosterone inhibitor.

Results The levels of plasma aldosterone were no significant differences between the three groups before pacing (p>0.05), while 4 weeks and 8 weeks after pacing the plasma aldosterone levels and the aldosterone levels of atrial tissue 8 weeks after pacing of the other groups were significantly lower than those of the control group (p<0.05). In the control group, 4 weeks and 8 weeks after pacing the plasma aldosterone levels was significantly higher than that before pacing (p<0.05), while in the other two groups, there were no significant differences between before and after pacing (p>0.05). PACing for 4 weeks and 8 weeks later, the diameter, end-systolic volume and end-diastolic volume of the left atrium of the control group dogs significantly increased than before pacing, and left atrial ejection fraction (LAEF) lower than before pacing significantly (p<0.05). Compared with the control group, those of the Perindopril group and Spironolactone group after pacing significantly reduced, but LAEF significantly increased (p<0.05). Compared with the control group, the number of dogs maintained atrial fibrillation of the two treatment groups after cessation of pacing significantly reduced, with a shorter duration of atrial fibrillation. While there was not significant difference between the two treatment groups. The value of Collagen Volume Fraction (CVF) of the Control group was significantly higher than those of the other two groups (p<0.05), while no significant difference value between the two treatment groups (p>0.05).

Conclusion The aldosterone receptor antagonist (spironolactone) and ACEI (Perindopril) can inhibit aldosterone levels and atrial fibrosis, improve the changes of atrial structure and function, and reduce the incidence and duration of atrial fibrillation. And the effects of the two drugs are similar.

e0098 HIF-1α, SDF-1α AND VEGF GENE EXPRESSION AFFECTED BY HIF-1α siRNA IN MSCS

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Objective HIF-1a, SDF-1a and VEGF gene expression affected by HIF-1a siRNA in MSCs.

Methods Bone marrow mesenchymal stem cells were cultured in vitro (5–5 generation.), inverted microscope was used to observed morphology, flow cytometry was used to detect of surface markers CD11b / c, CD34, CD44 and CD90. MSCs were divided into five groups, hypoxia group (only hypoxia), liposome group (MSCs transfected with empty liposomes), siRNA609 (MSCs transfected with siRNA609 sequence), siRNA658 (MSCs transfected with siRNA658 sequence), siRNA2070 (MSCs transfected with siRNA2070 sequence). The cells were cultured under hypoxia for 24 h, HIF-1a gene expression was detected by RT-PCR. MSCs were divided into four groups, control group (without any treatment), hypoxia group (hypoxia 24 h), liposome control group (MSCs transfected with liposome then hypoxic 24 h), RNA interference (MSCs transfected with RNA interference sequences then hypoxic 24 h). RT-PCR results showed that siRNA609, siRNA658, siRNA2070 group compared with hypoxia group HIF-1a gene expression was lower (p<0.05), while in the other two groups (p=0.05), the siRNA658 group is the least (p<0.05). 5. ELISA results revealed that compared with the lipsome control group RNA interference group HIF-1 a, SDF-1 a and VEGF gene expression increased (p<0.05), and compared with the liposome control group RNA interference group HIF-1 a, SDF-1 a and VEGF gene expression reduced (p<0.05). 6. ELISA results revealed that compared with the normal control group hypoxia group HIF-1 a, SDF-1 a and VEGF content were increased (p<0.05), compared with the liposome control group RNA interference group HIF-1 a, SDF-1 a, VEGF content was decreased (p<0.05). 7. CCK8 results revealed that compared with the normal control group hypoxia group HIF-1 a, SDF-1 a and VEGF content were increased (p<0.05), compared with the liposome control group RNA interference group HIF-1 a, SDF-1 a and VEGF content were increased (p<0.05).
e0097 Canine marrow mesenchymal stem cells with lentiviral mHCN4 gene transfer create cardiac pacemakers
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