

Research title

Aldosterone monitoring in dogs with mitral valve disease: could be a useful tool for optimize cardiac therapy?

Il monitoraggio dell'aldosterone nei cani con malattia mitralica degenerativa: può essere uno strumento utile per ottimizzare la terapia cardiaca?

Tutor

Dr.ssa Chiara Locatelli

Co-Tutor

Prof.ssa Paola G. Brambilla

Contact details

Università degli Studi di Milano

Dipartimento di Medicina Veterinaria

E-mail: chiara.locatelli@unimi.it

<http://orcid.org/0000-0002-6014-4378>

<http://www.dimevet.unimi.it/ecm/home>

State of the art and aims of the project

Aldosterone is a corticosteroid hormone that plays a pivotal role in homeostatic regulation of water and salt reabsorption, blood volume and pressure. Furthermore, the aldosterone may interfere with the effects of the ACE inhibitors used in the mitral valve disease (MVD) therapy. Periodic evaluation of aldosterone in dogs with MVD could help to optimize pharmacotherapy during the progression of cardiac disease.

Aldosterone has a pulsatile secretion, so measurement in serum is less indicative than in urine, where concentration can be indexed to creatinine ratio for estimation of the 24-h aldosterone excretion. Evaluation of the urinary aldosterone to creatinine ratio (UAldo:C) in dog can be used to assess the status of a patient's renin-angiotensin-aldosterone system (RAAS).

The aim of this project is to measure periodically the UAldo:C in dogs with MVD (different ACVIM classes), in order to optimize the cardiac therapy.

Recent publications of the tutor in the field

1. Savarese A, Probo M, Locatelli C, Gazzonis AL, Zanzani SA, Traini G, Vitiello T, Brambilla PG. Iron status in dogs with myxomatous mitral valve disease. *Pol J Vet Sci*. 2018 Sep;21(3):507-515. doi: 10.24425/122625.
2. Savarese A, Probo M, Locatelli C, Zanzani SA, Gazzonis AL, Papa M, Brambilla PG. Reliability of symmetric dimethylarginine in dogs with myxomatous mitral valve disease as kidney biomarker. *Open Vet J*. 2018;8(3):318-324. doi: 10.4314/ovj.v8i3.11. Epub 2018 Aug 19.
3. Locatelli C, Piras C, Riscuzzi G, Alloggio I, Spalla I, Soggiu A, Greco V, Bonizzi L, Roncada P, Brambilla PG. Serum proteomic profiles in CKCS with Mitral valve disease. *BMC Vet Res*. 2017 Feb 7;13(1):43. doi: 10.1186/s12917-017-0951-5.
4. Martinelli E, Locatelli C, Bassis S, Crosara S, Paltrinieri S, Scarpa P, Spalla I, Zanaboni AM, Quintavalla C, Brambilla P. Preliminary Investigation of Cardiovascular-Renal Disorders in Dogs with Chronic Mitral Valve Disease. *J Vet Intern Med*. 2016 Sep;30(5):1612-1618. doi: 10.1111/jvim.14524.
5. Di Marcello M, Terzo E, Locatelli C, Palermo V, Sala E, Dall'Aglio E, Bussadori CM, Spalla I, Brambilla PG. Assessment of mitral regurgitation severity by Doppler color flow mapping of the vena contracta in dogs. *J Vet Intern Med*. 2014 Jul-Aug;28(4):1206-13. doi: 10.1111/jvim.12380. Epub 2014 Jun 16.