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Modulating ascites-related genes expression by several synthetic or herbal drugs in broiler chickens exposed to low ambient temperatures

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This experiment investigated effects of two plant extracts, L-arginine, vitamin E and Captopril® on ascites-related genes expression in broilers exposed to low ambient temperatures. 450 1 d old male Ross 308 broilers were randomly allocated to 6 dietary treatments including 5 replicates with 15 birds per each, and grown over a 28 d experimental period. Room temperature was kept at 32°C during the first 3 d of the trial and was then gradually reduced to 14°C by the third week, at which was maintained through the end of the experiment. Dietary treatments consisting of a control diet without additive and 5 similar diets that were supplemented with *Prosopis farcta* extract (PFE, 200 mg/kg), *Rhus coriaria* L. extract (RCE, 200 mg/kg), L-arginine (40% more than requirement), vitamin E (100 mg/kg), and Captopril® (15 mg/kg), respectively. On d 28, two birds from each pen were randomly selected, slaughtered and then their lungs were collected for mRNA extraction consequently evaluating gene expression. RT-qPCR was done with the Bio-Rad real-time detection system, and also β actin gene was considered as the control for cDNA quantity and quality. In addition, specific primers for angiotensin converting enzyme (ACE) and inducible nitric oxide synthase (iNOS) genes were designed by Allele ID Software. The results revealed that use of PFE, RCE, and Captopril® caused to decrease in ACE expression level in lungs of broilers than two other additives ($P=0.003$). Also, the level of iNOS mRNA in lungs tissue was only significantly increased by adding PFE and arginine to diet as compared to control diet ($P=0.001$). It can be concluded that using PFE due to having beneficial effects on both of genes is an effective drug for preventing ascites syndrome.

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Use of acupuncture in veterinary practice

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Acupuncture represents the ancient art of medicine, used long time ago primary in ancient China. These days it is implemented in medical practice as part of integrative medicine to treat or to support treatment. It was used for thousand years for human and domestic livestock, but in cats and dogs it was used only for about last 30 years. There are several mechanisms of acupuncture effect. There is first local response, but then it spreads down meridians (most of them which are located on long nerves) to effect most of the body and at the end there is effect on endocrine and immune system. In practice, it is frequently used in geriatric patients with changes on bones and joints, where use of NSAID (non steroidal anti-inflammatory medication) or steroid use is reduced or completely stopped, pain relief and general wellbeing is in that case fully replaced by traditional Chinese veterinary medicine (acupuncture, herbal therapy, Tui-na massage, food therapy). Acupuncture is also widely used to support treatment of internal organs, like for example renal failure. I would like present few cases to explain how I used it for renal failure in cat, for complete recovery of radial nerve paralysis in cat, case of spondylosis and case of cruciate ligament rupture.

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