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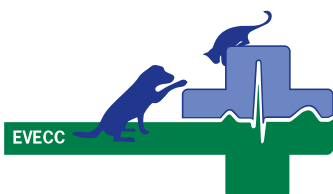
Ghent, Belgium

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Using the external jugular vein collapsibility index as an indicator for reestablishment of normovolemia in a hypotensive dog - a case report

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Background: Alternatively to the vena cava, researches have been proposed using the jugular vein to evaluate the hemodynamic status in human patients. The location outside the abdominal cavity, the possibility of being evaluated in several recumbencies and the ease of localization through ultrasonography make the external jugular vein (EJV) a possible alternative also in veterinary medicine. The objective of this case report was to describe the variability of the EJV diameter and collapsibility index (CI) pre and post fluids resuscitation in a dog.

Case presentation: A 13 year old neutered female Chihuahua with hypoadrenocorticism, treated with fludrocortisone for the last two years was presented with weakness, vomiting and anorexia. The dog was off the medication for one week. On the primary survey the dog presented pale mucous membranes, moderately dehydrated (6-7%), 60bpm of heart rate (HR), 24brpm of respiratory rate (RR), temperature of 36.5°C, weak peripheral pulses, systolic blood pressure (SBP) 90mmHg and lactate 4mmol/L. The EJV maximum and minimum diameters were 23mm and 19mm, respectively. The EJV CI was 17%. It was initiated fluid therapy with crystalloids and a 10mL/kg bolus administrated during 20 minutes, followed by a secondary survey where the dog presented HR 112bpm, RR 20brpm, temperature of 36.5°C, weak peripheral pulses, and SBP 140mmHg. The EJV maximum and minimum diameters were 33mm and 31mm, respectively. The EJV CI was 5%. It was administered another 10mL/kg bolus of crystalloids and the fluid therapy continued. After 40 minutes the patient presented HR 76bpm, RR 24brpm, temperature of 37.3°C, SBP 130mmHg, and lactate 1.3mmol/L. The EJV maximum diameter and minimum diameters were 35mm and 34mm, respectively. The EJV CI was 3%. The patient continued hospitalized receiving fluid therapy, and appropriate treatment with corticosteroids, and was discharged after 48 hours.

New/Unique Information: Using the EJV diameter and CI variation to estimate the hypovolemic condition contributed to an adequate rapid volume replacement during an emergency approach in a dog. The successful EJV CI targeted reestablishment of normovolemia is reflected in a controlled fluid administration that allowed a reduction of the CI from 17% to 3% in just 40 minutes.

