It has already been clinically carperitide to MR model dogs improving congestion by measuring changes in plasma neurohumoral factors after administration of carperitide in acute congestive heart failure dogs treated with carperitide. There is also a report that carperitide has therapeutic effect on severe heart failure in human medicine. Studies in human trials have shown that carperitide has multiple effects such as vasodilation, sodium diuresis, and inhibition of the RAAS. And, it is considered that these effects improve heart failure. There is also a report that improving congestion by intravenously administering carperitide to MR model dogs was due to vasodilating action. It has already been clinically applied to veterinary patients with pulmonary edema. However, as far as we know, there is no report on the therapeutic effect of carperitide in veterinary cases. In this study, we examined the effect of carperitide on neurohumoral factors in veterinary cases.

**Materials & Methods**

**Animals**
- A total of 19 patients visited during the study period. From these cases, 9 patients fulfilled the criteria of the study. The 9 patients were 1 female, 8 spayed females; 4 neutered males, and 4 intact males. The breeds were Chihuahua (5), CKCS (1), Shih Tzu (1), Poodle (1), and Shetland Sheepdog (1). Median age of the patients was 11 years (9-13).
- Median body weight of the patients was 3.8 kg (1.2-9.2).

**Measurements**
- Plasma concentration of neurohumoral factors: ANP (CLEA; Chemiluminescence Enzyme Immunoassay), NT-proBNP (ELISA; Enzyme-Linked Immunosorbent Assay), Aldosterone (IBA Immuno radio metric assay).
- Blood pressure (Systolic, Mean).
- Chest radiography (VHS, pulmonary permeability).
- Echocardiography (LA/Ao, E wave).
- Measurement time point: Before carperitide administration: pre sampling. After carperitide administration: post sampling.
- Treatment: Carperitide 0.05-0.1mg/kg/min.
- Other medications: Furosemide 2.0mg/kg SC or 1.0mg/kg/CRI, Dobutamine 5ug/kg/min/CRI.

**Results & Discussion**

**Therapeutic effect**
- Slight effects were not observed by carperitide and administration of it was safe. The median and range are indicated by lines and bars, respectively.
- Significant decrease of aldosterone was observed.
- Plasma ANP concentration significantly elevated with a human atrial natriuretic peptide (hANP) preparation.
- It can be considered that pharmacological effects of ANP are also obtained in dog's body by hANP administration.

**Statistical analyses**
- The data of plasma ANP, NT-proBNP, and aldosterone concentration are expressed as median (Minimum - Maximum).
- The data of blood pressure, VHS, LA/Ao, and E wave are expressed as mean±SD.
- Plasma NT-proBNP concentration were compared by Bonferroni correction.
- Plasma ANP and aldosterone concentration were compared by Wilcoxon signed rank test.
- Blood pressure, VHS, LA/Ao, and E wave were compared by T test.

**Conclusions**
- It can be considered that aldosterone decrease in this study is due to Carperitide secretion inhibited by Carperitide.
- Aldosterone is a hormone with a strong sodium retention effect and promotes the reabsorption of sodium and water in the kidney, which increases body fluid volume including circulating blood volume, preload increases and cardiac output is increased.
- Higher aldosterone levels were found in patients with chronic HF when compared with controls, and were found to be associated with poor outcome.
- Therefore, suppression of aldosterone was thought to lead to improvement of cardiac function and life prognosis.