**Evaluation of abdominal ultrasound features in relation with canine Spec cPL, the severity of disease and mortality in suspected canine acute pancreatitis**

E. Gori1, A. Pierini1, I. Lippi1, S. Citi1, T. Mannucci1, V. Marchetti1

1 Veterinary Teaching Hospital “Mario Modenato”, Department of Veterinary Sciences, University of Pisa, Italy.

In canine acute pancreatitis (AP) abdominal ultrasound (US) is a widely-used non-invasive diagnostic tool involved in the diagnosis. Although, no specific recent studies about the relationship between US and clinicopathological features and severity of canine AP are available.

The aim of the study was to evaluate abdominal ultrasound features in relation with canine Spec cPL, severity of disease and outcome in suspected canine AP.

Dogs with suspected AP hospitalized between 2017 and 2019 were prospectively enrolled. AP was suspected based on compatible clinical and laboratory parameters, abnormal SNAP cPL test (Idexx Laboratories) at admission. Data regarding abdominal pain were recorded and serum samples for Spec cPL were sent to a commercial laboratory (Idexx Laboratories). US was performed at presentation, and every 24h until 2 days from hospitalization. US was considered consistent with AP if there were hypoechoic and enlarged pancreas, irregular shape and margins, surrounded by hyperechoic mesentery and/or abdominal effusion. Recently developed Canine Acute Pancreatitis Severity (CAPS) score was calculated and dogs were divided into groups (CAPS <11 and >11. Mortality rate was assessed at hospital discharge. US positivity at presentation was compared with the presence of abdominal pain, mortality rate and CAPS using Fisher’s exact test. OR was also calculated. Spec cPL values were compared in positive/negative US at presentation using Mann-Whitney U-test. Forty-seven client-owned dogs were prospectively enrolled with owners’ informed consent. Seventeen dogs (36%) died during hospitalization. Twenty-four dogs (51%) had US suggestive of AP at presentation, while other 10 US became positive within 2 days from hospitalization (US+ group, n=34). Thirteen dogs (27%) remained US negative (US- group). No association between mortality and US positivity was found. Twenty-two dogs (47%) presented with abdominal pain. Dogs showing abdominal pain had significantly higher prevalence (88%) of positive US than dogs without abdominal pain (p=0.0014; OR 10.22). CAPS and US positivity were not associated, although CAPS was associated with mortality (p=0.0021; OR 9.3). Spec cPL were not significantly different between positive or negative US at presentation, and 8 dogs had negative US at admission, which became positive afterwards with Spec cPL<400μg/L. Interestingly, 4 dogs were in US- group, despite a Spec cPL>400μg/L.

In dogs with AP, changes in US could occur later during hospitalization, although the presence of abdominal pain at presentation may suggest US positivity. Furthermore, US positivity seems to be related neither with Spec cPL nor to the prognosis or the severity of the disease.