A multi-institutional study evaluating diagnostic utility of Spec cPL® in the diagnosis of acute pancreatitis in dogs

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Purpose—To investigate the performance of the Spec cPL ELISA in dogs with a clinical diagnosis of acute pancreatitis.

Design—Fourteen members from the Comparative Gastroenterology Society, representing five different institutions, recruited a total of 84 dogs for the study (see figure 1). Cases with an initial differential diagnosis that included acute pancreatitis (APS; n=57), or did not include acute pancreatitis (CO; n=27), were included. Clinical and laboratory findings (including total amylase and lipase) as well as ultrasound information for each dog was reviewed by a panel of four board-certified internists blinded to the Spec cPL result. Based upon their evaluation, dogs were categorized into one of five predefined groups as to the likelihood that the dog had pancreatitis.

Results—Spec cPL differed according to group (1-Way ANOVA, P<0.001) and was higher (P<0.001) in dogs with greater suspicion of pancreatitis (groups 2, 3 and 4) than those without suspicion of pancreatitis (groups 0APS and 0CO). Results of the study also found that:

- Amylase and lipase activities did not differ between groups.
- Spec cPL sensitivity and specificity for cases with clinical scores of 0 (no pancreatitis) and of 2, 3 and 4 (pancreatitis), calculated using current cut off values of <200 μg/L as negative and >400 μg/L positive, yielded a 93% sensitivity and 78% specificity.
- The likelihood ratio of a negative test (0.029) was better than that for a positive test (1.3).

Conclusions—The Spec cPL Test is better able to discriminate dogs with suspected pancreatitis than amylase and lipase, and that dogs with a Spec cPL result <200 μg/L are unlikely to have clinical acute pancreatitis.
Clinical Relevance for Practitioners

This study demonstrates the utility of cPL as part of the initial workup on dogs presenting with vomiting, anorexia or abdominal pain. Running the SNAP® cPL™ Test with your baseline chemistry will help you diagnose or rule out acute pancreatitis sooner.

Use the SNAP cPL Test pet-side for immediate, actionable results:
- **Normal** result indicates pancreatitis is very unlikely.
- **Abnormal/elevated** result indicates cPL is increased (>200 µg/L) and pancreatitis is possible.

As demonstrated by the CGS study, the Spec cPL Test can be used as a reflex test to determine if increased levels of cPL are consistent with acute pancreatitis (>400 µg/L).

Alignment of CGS study results with the Spec cPL and SNAP cPL tests

<table>
<thead>
<tr>
<th>SNAP cPL</th>
<th>Spec cPL &lt;200</th>
<th>Elevated</th>
<th>Consistent with pancreatitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Unlikely to have pancreatitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abnormal</td>
<td></td>
<td>Consistent with pancreatitis</td>
<td></td>
</tr>
</tbody>
</table>

CGS Study Results

<table>
<thead>
<tr>
<th>CGS Study Results</th>
<th>Total Spec cPL</th>
<th>Total SNAP cPL</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spec cPL &lt;200</td>
<td>24</td>
<td>Normal 23</td>
<td>95.8%</td>
</tr>
<tr>
<td>Spec cPL &gt;400</td>
<td>46</td>
<td>Abnormal 44</td>
<td>95.6%</td>
</tr>
</tbody>
</table>

Of the "consistent with pancreatitis" samples, 100% were interpreted correctly with the SNAP cPL Test. The SNAP cPL Test identified one normal sample as abnormal and two elevated samples as normal. None of the cPL concentrations greater than 400 (consistent with pancreatitis) were read as normal using the SNAP cPL Test.

Additionally, IDEXX research found a >95% correlation of normal and abnormal results between the Spec cPL and SNAP cPL tests.\(^1\) n=70

Add the SNAP cPL Test to your initial workup for a more complete evaluation of patients presenting with vomiting, anorexia or abdominal pain.

To order, contact your authorized IDEXX distributor or call 1-800-248-2483.

To learn more about canine pancreatitis, go to www.idexxlearningcenter.com/pancreatitis.

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2. Data on file at IDEXX Laboratories, Inc. Westbrook, Maine, USA.