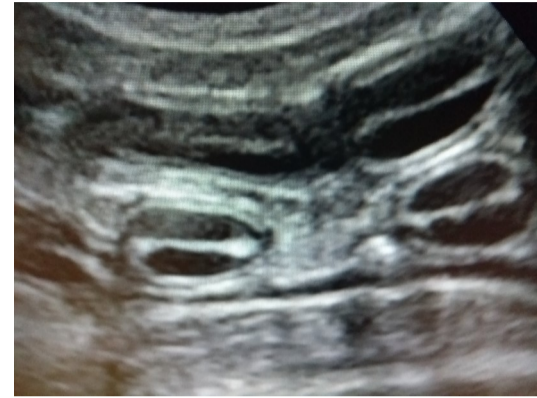


IBD in Canine & Human Bowel, a comparison

Introduction:

Ultrasound of small intestine has become routine investigation in small animals, becoming more common with human due to improved imaging. It is limited by bowel gas. Ultrasound can provide information on bowel wall thickness, layering of the wall, peristalsis and luminal contents.

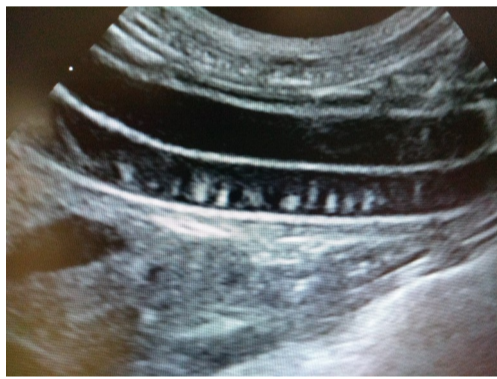
Canine intestinal ultrasound plays an important role in the recognition, diagnosis, and monitoring of many gastroenterological diseases and is becoming increasingly important in the management of inflammatory bowel disease (IBD).



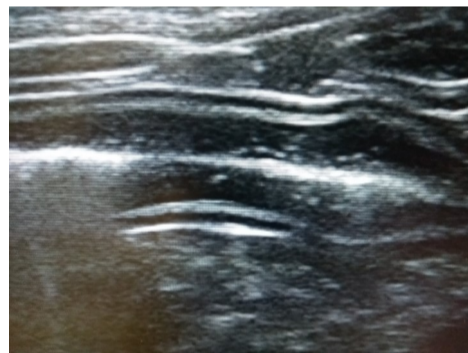
Normal Canine Bowel

IBD is an irritant disease that results in inflamed cells within the gastrointestinal wall. Suggestions for the cause are hypersensitivity to certain foods, bacteria, parasites or other foreign elements.

There is thickening of the bowel. Also two patterns of increased mucosal echogenicity have been reported, hyperechoic speckles and hyperechoic striations.



Striated Canine Bowel



Speckled Canine Bowel

Canine bowel showing mucosal hyperechoic striations, lymphangiectasia. Thickened jejunal segments with hyperechoic striations within the mucosal layer represent dilated lacteals.

Hyperechoic speckles within the mucosa are a sensitive parameter for determining the presence of inflammatory disease, may represent chronic changes that may require a longer period of time to resolve

Normal jejunum/ileum wall thickness is 3-3.8mm and 1.5mm for large intestine

A normal, hypoechoic intestinal mucosa in dogs with chronic diarrhoea is a sensitive and specificity finding for the diagnosis of food-responsive disease.

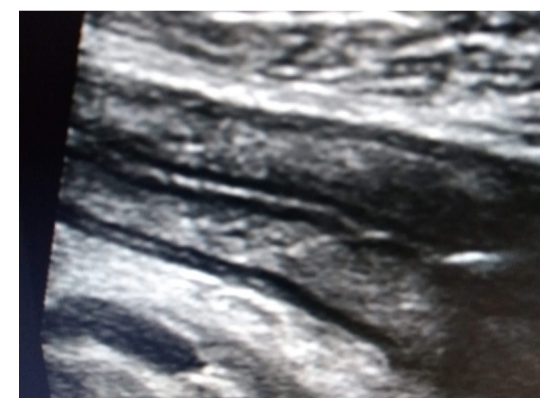
Human Bowel:

Using ultrasound, bowel wall thickness is the most common indicator for the detection of inflammatory activity within the intestine. Wall thickness of the alimentary tract differs by region and depends on the degree of distension and contraction and probe compression

Common cut off values are 2 mm of wall thickness for the small intestine and 3-4 mm for the large intestine, although there is no standardisation. Loss of layering is indicator of active inflammation.



Normal Human Bowel



Thickened Human Bowel

Conclusion:

Transferring skills between canine and human imaging show similarities of disease.

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References; Royal Canin.
Penninck d'Anjou, Small animal ultrasonography.
BMJ.gut.org