Study of the appearance of the small intestine in hospitalized horses

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INTRODUCTION

Ultrasonography is a valuable tool to diagnose gastrointestinal pathologies in the horse. Measure certain parameters allows us to obtain important information to decide between medical or surgical management.

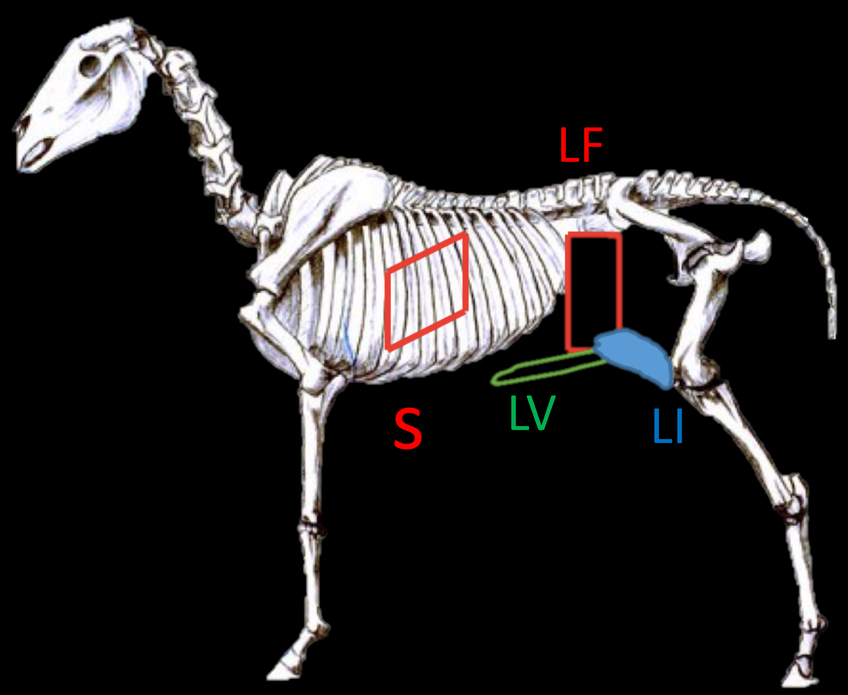
It is essential to know the appearance of a normal abdomen for the recognition of the pathological one.

MATERIAL AND METHODS

n = 7 adult horses were used. Animals were patients of Equine Unit that came to undergo elective surgery requiring general anaesthesia/deep sedation. Reception, fasted and post-surgery control ultrasound examinations were performed with an 3,5 MHz sectorial probe. Multiple areas were examined from left side **(Fig 1)** and right side **(Fig 2)** of each horse.

OBJECTIVE

The objective of this study is to describe the normal appearance of the small intestine in the horse and compare it with the results of previous studies.



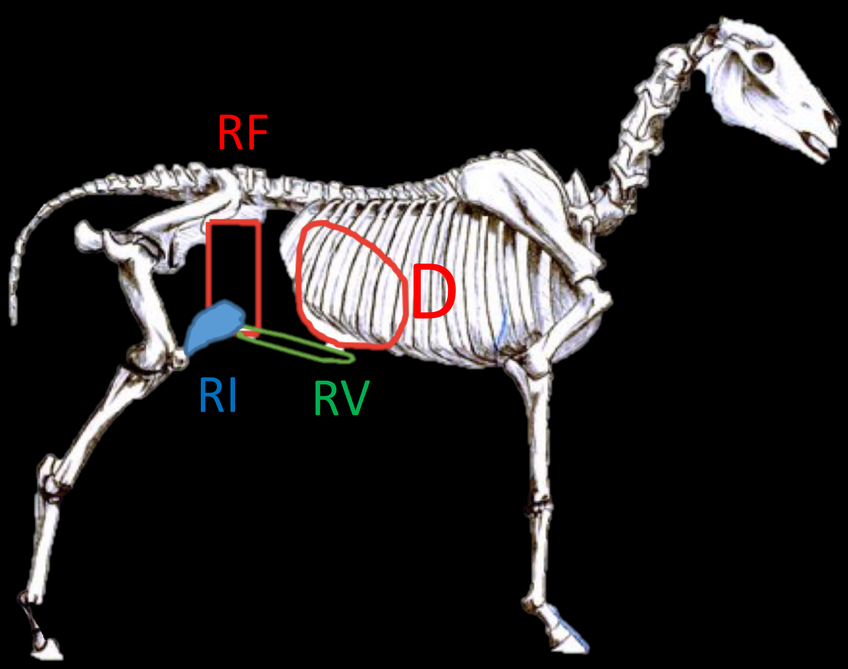


Fig. 1. Left side. Imaged areas: stomach (S), left flank (LF), left inguinal (LI) and left ventral (LV)

Fig. 2. Right side. Imaged areas: duodenum (D), right flank (RF), right inguinal (RI) and right ventral (LV)

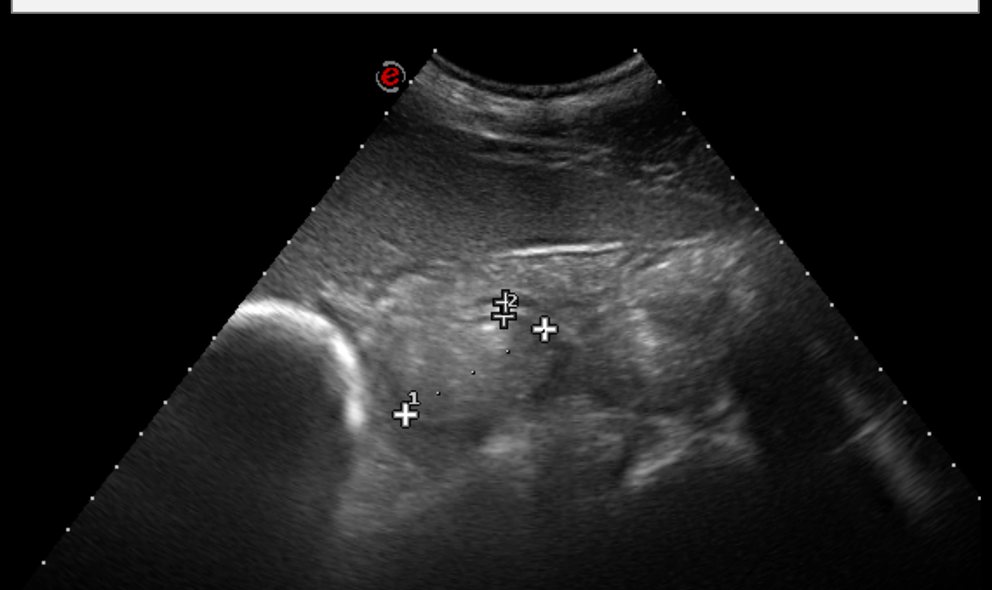


Fig. 3. (left) and **Fig. 4**. (right): **Control ultrasound images taken from left flank and stomach respectively.** In each area number of intestinal loops, diameter (cm), wall thickness (cm), motility and shape of the loops were recorded.

RESULTS AND DISCUSSION

- Intestinal loops were mostly seen in left flank and left inguinal areas.
- Diameter: 3,44 ± 1,24 [2,16-8,5] cm
- Wall thickness: 0,21 ± 0,064 [0,23-0,35] cm.
- Wall thickness in fasted horses were thicker than in postprandial. However, this was not statistically significant (*P*= 0,81).
- Motility was always present in a physiological appearance and ultrasound examinations allows us to assess the quality and efficacy of the motility by observing the movements and normal transit of dietary intake.
- The great mobility of the jejunum causes that it can be seen in all the abdomen.
- Gas and fluid from the colon may interfere with ultrasounds.
- Intestinal diameter depends on gas and dietary intake, peristaltic waves, and pressure of other intestine loops.

CONCLUSIONS

- Left flank and inguinal are the major areas to visualize the small bowel.
- The bowel diameter is variable and high values can be registered without involving pathological distension.
- Thickness measurements are reproducible.
- There are no significant differences between the measures taken in fasted and postprandial horses