Value of Serial Peritoneal Lactate Concentrations on Identifying Strangulating Intestinal Lesions in Referred Horses With Signs of Colic

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1. Introduction
In horses with visceral ischemia, peritoneal fluid lactate concentrations increase before increases are noted in the systemic circulation. Similar findings in human patients have resulted in postoperative intra-abdominal monitoring of peritoneal fluid lactate concentrations for the early detection of visceral ischemia.

2. Materials and Methods
The medical records of 95 horses that were referred with signs of colic and had at least two peritoneal fluid (PF) samples collected for evaluation of lactate concentration were reviewed. Lactate concentration was measured using a point-of-care device.a A positive difference in lactate ≥0.5 mM between the first and second PF samples collected from a horse was categorized as an increase in concentration.

3. Results
An increase in lactate concentration was significantly associated with presence of a strangulating lesion. Using the cut-point of ≥0.5 mM, sensitivity of the procedure was 79% and specificity was 88%.

4. Discussion
This finding is valuable in the clinical setting, where the early detection of visceral ischemia can expedite the initiation and surgery and ultimately survival. Because the sensitivity and specificity of these values may vary between populations, a repeat of this study at several different clinical settings would substantiate these results.

Footnote

a Accutrend lactate analyzer, Sports Resource Group, Hawthorne, NY 10532.