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BURSTING STRENGTH OF VENTRAL MIDLINE CELIOTOMY COVERED BY TWO STANDARD ABDOMINAL BANDAGES FOR SUPPORT IN THE HORSE

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Background: Incisional complications following ventral midline celiotomy in the horse result in increased morbidity and mortality (Salem *et al*. 2016; Smith *et al*. 2007). Reduction of post-operative incisional complications is an important aspect of improving outcomes of horses undergoing a ventral midline celiotomy.

Objectives: The aims of this study were to determine the extent of and difference in support provided by abdominal support bandages following ventral midline celiotomy in the horse.

Methods: A 20-cm ventral midline celiotomy was created in 18 equine cadavers. A 200-L inflatable bladder was placed in the abdomen and incisions were closed in routine fashion. Horses were randomly assigned to either no bandage (C), elastic bandage (E), or Velcro® inelastic bandage (Belt) groups for testing. Bandages were placed in consistent fashion with a sub-bandage pressure system over the incision. The bladder was then insufflated until failure. Bursting pressure, location of failure, and sub-bandage pressure were recorded.

Results: Bursting pressures were significantly different between groups ($p = 0.0094$), specifically between C and E ($p = 0.0125$), with E and Belt mean pressures (459.23 mmHg, 385.87 mmHg respectively) being significantly greater than C (297.47 mmHg). There was a significant difference in location of failure, especially between C and Belt ($p = 0.0152$), with Belt group failing at the diaphragm in 6/6 (100%). No significant difference in sub-bandage bursting pressure was identified between the bandage groups ($p = 0.13$).

Conclusions: Use of an elastic abdominal bandage provides support to the equine abdominal wall as exemplified by the significant increase in bursting pressures.

Ethical animal research: No ethical approval required per review by Institutional Animal Care and Use Committee.

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Competing interests: None.

References

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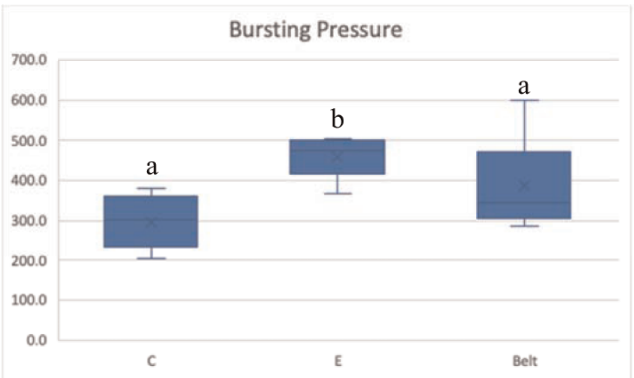
Figure:



C, no bandage, E, elastic bandage, Belt, Velcro® inelastic bandage
Different letters designate statistical significance

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SURGICAL COLIC CAUSED BY ADHESIONS IN ABSENCE OF PREVIOUS ABDOMINAL SURGERY: 9 CASES (2012-2019)

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Background: Intestinal pathologies caused by adhesions or fibrous bands in the absence of previous abdominal surgery have been reported in humans but scarcely in horses.

Objectives: To describe the clinical and surgical features of acute colic in horses caused by adhesions or fibrous bands in absence of previous abdominal surgery.

Methods: Records of horses that underwent exploratory laparotomy at the University of Turin VTH between 2012–2019 were reviewed. Clinical and surgical features of cases diagnosed with adhesions or fibrous bands as the primary cause of colic were retrieved, excluding whose that had a previous abdominal surgery.

Results: Nine out of 293 horses met the criteria for the study. In three cases, the adhesion was between the omentum and portion of the intestine In one case a fibrous band 3-4 cm long running across the mesojejunum parallel to the small intestine strangled a loop of small intestine. In the other cases, the adhesion involved the left colon. Of these, two were geldings and the adhesion involved the internal inguinal ring region. Both had a history of funiculitis. The others were mares, and in one of them the adhesion was at the level of a small hernia in the left lateral abdominal wall.

Conclusions: In horses, abdominal adhesions in the absence of previous abdominal trauma may be a cause of colic. Parturition, colon displacement or castration may predispose to the formation of intra-abdominal adhesions.

Ethical animal research: No ethical approval required.

Source of funding: None.

Competing interests: None.