Is cutaneous application of cyanoacrylate a factor which influences the incidence of postoperative infection in surgical colic?

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INTRODUCTION
Cyanacrylate is a synthetic biomaterial fluid, which uses the chemical properties of cyanacrylate monomer, polymerizing rapidly in the presence of water and solidifying, strongly adhering to tissues. This is used as a "skin suture" or suture reinforcement. In humans it is being used as a new option for wound closure in plastic surgery, dentistry, emergency and even in children. To our knowledge, no information is available on the use of ethyl-cyanacrylate in horses.

OBJECTIVES
To assess the application of ethyl-cyanacrylate on surgical incisions as a factor influencing the incidence of post-colic surgery infection in horses.

MATERIAL & METHODS
Retrospective clinical study

- Animals: horses (n=47) that had an exploratory celiotomy for colic with the application of ethyl-cyanacrylate or not in the incision between January, 2014 and December, 2015.
  • The evolution of these horses incision (normal or infected) was assessed during hospitalization and follow-up at home after hospital discharge.
  • Incisions were classified as "normal" (no complication, only edema) or as "surgical site infection (SSI)" (with purulent drainage after 48h).
  • The horses were included if (1) they were operated of surgical colic; if (2) they had survived during the post-surgical at hospital.
  • The risk factor evaluated were: extrinsic intraoperative (application of ethyl-cyanacrylate (Loctite®)).

Study design: retrospective case series

Statistical Analysis
The variables were statistically analyzed using (R 2.12.1.ink to Windows) the X² test to qualitative variables. P<0.05 was considered a significant value.

RESULTS
- Of 47 horses, 5 were infected. From 19 (40%) that had application of ethyl-cyanacrylate only 2 (10.53%) developed a SSI; and from the other 28 (60%) that did not have application of ethyl-cyanacrylate only 3 (10.71%) developed a SSI.
- In our analysis data p-value is 0.6444 - p-value >.05 - can not be considered as a significant value, so therefore the use of ethyl-cyanacrylate and the infection are independent variables.

CONCLUSIONS
The application of cyanacrylate on surgical incisions has no influence (that not decrease) on the incidence of post-operative infection in equine surgical colic.