Experimental laparoscopic pyloromyotomy in pigs

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Abstract

The objective of this study was to evaluate and compare laparoscopic pyloromyotomy methods involving the laparoscopic scalpel and the harmonic scalpel in pigs. The experiment was conducted on 4 subgroups of 12 animals subjected to laparoscopic-assisted pyloromyotomy with a surgical scalpel and the harmonic scalpel, as well as laparoscopic pyloromyotomy with Berci's laparoscopic scalpel and the harmonic scalpel. No postsurgical complications were observed. Four weeks after the surgery, the animals were sacrificed and autopsy was performed. In one animal peritoneal adhesions between the intestines and the mini-laparotomy incision were found. Laparoscopic pyloromyotomy and laparoscopic-assisted pyloromyotomy performed in pigs enabled the selection of laparoscopic entry sites, instruments for pyloromyotomy and evaluation of the applied surgical procedures in animals. The results of this study indicate that the methods applied can be safely used in clinical practice in dogs and cats due to minimal post-operative complications and fast healing of laparoscopic incisions in comparison with classical surgical wounds, and that the harmonic scalpel is a safe surgical instrument.

Key words: harmonic scalpel, pylorus, endoscopy, pig

Introduction