Comparison of Pelvic Flexure Enterotomy Closure Performed Using a TA-90 Stapling Device Versus a Double-Layer Handsewn Closure: A Clinical Retrospective Study

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A TA-90–stapled closure of a pelvic flexure enterotomy is as safe as the traditional double-layer handsewn enterotomy closure. Author’s address: University of Wisconsin-Madison, 2015 Linden Drive, Madison, Wisconsin 53706; e-mail: rosser@wisc.edu. © 2010 AAEP.

1. Introduction
Pelvic flexure enterotomies are commonly performed in horses undergoing exploratory celiotomy for colic. Recently, a technique for closure of pelvic flexure enterotomies using the TA-90 stapling device has been published.

My objective was to compare the short-term survival and postoperative complications in horses undergoing pelvic flexure closure with a TA-90 (4.8-mm staple) and a traditional double-layer handsewn closure.

2. Materials and Methods
Medical records of horses undergoing pelvic flexure enterotomies between 2001 and 2008 in one private practice were reviewed. The Fisher exact test was used for statistical analysis.

3. Results
Eighty-four horses met inclusion criteria. Seventy horses had stapled closures, and 14 horses had hand-sewn closures. Twenty-eight horses experienced complications (32.0%). Major complications included gastric reflux (8.3%), colic (7.1%), diarrhea/colitis (4.8%), laminitis (4.8%), peritonitis (2.4%), and neuropathy (1.2%). Closure had no effect on major complications: gastrointestinal (p = 0.55) or non-gastrointestinal (p = 0.66). No significant differences were seen between stapled and hand-sewn closures with minor complications, defined as thrombophlebitis, incisional infection, or fevers (p = 0.55). Seventy-seven horses (89.5%) survived; no significance was identified between survivability and closure (p = 0.69).

4. Discussion
Based on my results, the TA-90–stapled closure of pelvic flexure enterotomy is as safe as the traditional double-layer hand-sewn pelvic flexure enterotomy closure regarding postoperative complications and short-term survival rate.