Bilateral Laparoscopic Ovariectomy in Standing Mares

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Bilateral laparoscopic ovariectomy performed in standing mares eliminates many of the potential complications associated with traditional methods of ovariectomy. When compared with previously described techniques, the technique described here requires minimal laparoscopic instrumentation. Dissection of the ovarian pedicle prior to ligation is considered essential to ligature security.

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1. Introduction

The traditional methods for bilateral ovariectomy in standing mares include colpotomy and flank laparotomy with ecrasement of the ovarian pedicles. Because these are blind procedures there are many potential complications, some of which have proven to be fatal. Laparoscopy has been used to improve visualization during ovariectomy. There are two intracorporeal techniques described for laparoscopic ovariectomy in standing mares. Palmer utilized a laser to dissect the ovarian pedicle prior to the application of a stapling instrument. Boure et al. did not dissect the pedicle prior to ligation. In addition, both of these techniques require disposable commercial equipment that may significantly increase the cost of the procedure. The purpose of this report is to describe a technique for a bilateral laparoscopic ovariectomy in standing mares that involves intracorporeal dissection and ligation and requires minimal laparoscopic instrumentation. In addition, the outcome of 22 clinical cases is reported.

2. Methods

Twenty-two mares with normal ovaries, as determined by rectal palpation, were ovariectomized. All mares were restrained in standing stocks and sedated with detomidine (0.01–0.02 mg/kg IV) and butorphanol (0.01–0.02 mg/kg IV). The sites for incision were infiltrated with local anesthetic. The surgical procedure included bilateral laparoscopic exploration, intracorporeal dissection and ligation of the ovarian pedicles, and subsequent excision of the ovaries. One laparoscope portal and two instrument portals were necessary in each paralumbar fossa. The two instrument portals were ultimately connected, resulting in an approximately 5 cm laparotomy to allow for removal of the ovary. Laparoscopic visualization ensured that hemostasis of the ovarian pedicles was complete in all cases.

Long-term follow-up consisted of a re-examination by the authors (for 12 mares) and telephone interviews (for ten mares). The re-examination included palpation per rectum and inspection of the incisions.
3. Results
No major operative or postoperative complications were encountered. Mild incisional edema and subcutaneous emphysema were common. Most mares had a transient decrease in appetite within the first 24–36 h following surgery. Transient pyrexia was seen in three mares. One mare developed an incisional infection that necessitated the use of antimicrobial therapy. Indications for ovariectomy included the following: mount mare (14), behavior modification (six), and elimination of colic signs associated with estrus (two). All mount mares were suitable for that purpose. Unacceptable behavior was improved in all mares, but it was eliminated in only four of the six. Colic signs did not recur in the two mares ovariectomized for that reason. Incisional cosmesis was determined to be very good. No adhesions or other abnormalities were detected in those mares palpated per rectum.

4. Discussion
Laparoscopic techniques have distinct advantages over conventional surgical methods of ovariectomy. The most important advantage in reducing complications is improved visualization of the operative field. Laparoscopic techniques are also minimally invasive, resulting in a decreased patient morbidity, improved cosmesis, and shortened convalescent time. Standing surgery in horses eliminates the complications associated with general anesthesia and recovery. For these reasons a standing laparoscopic technique for ovariectomy in mares would be preferred. The two intracorporeal techniques described for laparoscopic ovariectomy in standing mares\(^5,6\) were considered to be safe and effective. The technique described here differs in that minimal laparoscopic instrumentation is required and that sharp dissection of the ovarian pedicle is performed prior to ligation. The authors believe that dissection is essential for ligature security and can be done sharply with minimal hemorrhage. Twenty-two mares were ovariectomized by using this technique without major complications.

5. Conclusions
Although operative time and equipment requirements may be greater, standing laparoscopic ovariectomy eliminates many of the potential complications associated with traditional methods of ovariectomy in mares.

References