Randomized clinical trial of postoperative belladonna and opium (B&O) suppositories in vaginal surgery

K. A. Butler1, J. Yi1, J. Klauschie1, D. L. Ryan1, J. G. Hentz2, J. L. Cornella1, P. Magtibay1, R. Kho1

1Gynecology, Mayo Clinic Arizona, Phoenix, AZ, 2Clinical Studies, Mayo Clinic Arizona, Phoenix, AZ, 3Columbia University Medical Center, New York, NY

OBJECTIVES: Following vaginal surgery oral and parenteral narcotics are commonly used for pain relief and their use may exacerbate the incidence of sedation, nausea, and vomiting; ultimately delaying convalescence. Previous studies have demonstrated that rectal analgesia following surgery results in lower pain scores and less intravenous morphine consumption (1-2). Belladonna and opium (B&O) rectal suppositories may be used to relieve pain and minimize side effects; however their efficacy has not been confirmed. We aimed to evaluate the use of B&O suppositories for pain reduction in vaginal surgery.

MATERIALS AND METHODS: A prospective, randomized, double-blind, placebo-controlled trial using B&O suppositories following inpatient or outpatient vaginal surgery was conducted. Vaginal surgery was defined as: (1) vaginal hysterectomy with uterosacral suspension or (2) post-hysterectomy prolapse repair including uterosacral suspension and/or colporrhaphy. B&O 16A (16.2/60 mg) or placebo suppositories were administered rectally immediately following surgery and every 8 hours for a total of 3 doses. Patient reported pain was collected using a visual analog scale (VAS) at 2, 4, 12, and 20 h postoperatively. Opiate use was measured and converted into IV morphine equivalents. The primary outcome was pain and secondary outcomes included pain medication, antiemetics, and a quality of recovery questionnaire. A priori power analysis aimed for 80% power (α=0.05) to detect a difference of 2 points. Adverse effects were surveyed at 24 hours and 7 days. Concomitant procedures for urinary incontinence or pelvic organ prolapse did not preclude enrollment.

RESULTS: Ninety women were randomized consecutively at a single institution under the care of a fellowship trained surgeon group. Demographics did not differ between the groups with mean age 55, procedure time 97 minutes, and prolapse 51%. Postoperative pain scores were equivalent among both groups at each time interval. The B&O group used a mean of 57 mg morphine compared to 66mg for placebo (p=0.43) in 24 hours. Patient satisfaction with recovery was similar (p=0.59). Antiemetic and ketorolac use were comparable among groups. A subgroup analysis which may offer clinical significance revealed that rectal analgesia following surgery results in lower pain scores and less intravenous morphine consumption (1-2). Belladonna and opium (B&O) rectal suppositories may be used to relieve pain and minimize side effects; however their efficacy has not been confirmed. We aimed to evaluate the use of B&O suppositories for pain reduction in vaginal surgery.

CONCLUSION: B&O suppositories are safe for use following vaginal surgery. B&O suppositories did not reveal a statistically significant reduction in narcotic use compared to placebo; however the treatment group used fewer narcotics with similar recovery satisfaction which may offer clinical significance and/or reduced healthcare cost. Further investigation is warranted to identify a population that may optimally benefit from B&O use.

REFERENCES:

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIPS: Kristina A. Butler: Nothing to disclose; Johnny Yi: Nothing to disclose; Jennifer Klauschie: Boston Scientific, Speaker, Honorarium; Intuitive, Speaker, Honorarium; Proctor, Speaker, Honorarium; Debra L. Ryan: Nothing to disclose; Joseph G. Hentz: Nothing to disclose; Jeffrey L. Cornella: Nothing to disclose; Paul Magtibay: Nothing to disclose; Rosanne Kho: Nothing to disclose.

Inferior gluteal neurovascular anatomy in female cadavers: Clinical applications to pelvic reconstructive surgeries

M. E. Florian-Rodriguez, A. Hare, J. Phelan, K. Chin, C. Ripperda, M. Corton

UT Southwestern Medical Center, Dallas, TX

OBJECTIVES: Gluteal pain is common following sacrospinous ligament fixation (SSLF) procedures. Reported rates range from 12.4-55.4% in the postoperative period and from 4.3-15.3% at 4-6 weeks postoperatively. The neuroanatomy associated with the sacrospinous ligament (SSL) has not been thoroughly examined from a gluteal perspective relative to SSLF. The inferior gluteal nerve has not been carefully evaluated and data on thickness and height of SSL at its midpoint is scarce. This information should provide insights into safe suture placement and on the source of gluteal pain following SSLF. The objectives of this study were to characterize the IGN and other neurovascular anatomy associated with the SSL, to determine thickness and height of SSL at its midpoint, and to correlate findings to prolapse repair procedures that use the SSL as a fixation site.

MATERIALS AND METHODS: Detailed dissections were performed in unembalmed female cadavers. From a gluteal approach, distances from nerves and vessels to ischial spine (IS) and to midpoint of SSL were recorded. Origin and width of the IGN were documented. Closest neurovascular structure to IS and to midpoint of SSL was noted. Length and height of SSL and thickness of coccygeus-sacrospinous ligament (C-SSL) complex were documented. Distance from IS to fusion point of SSL and sacroserous ligament (STL) was recorded. From a pelvic approach, sacral nerves perforating the ventral surface of coccygeus muscles were documented. Closest structure to superior border of midpoint of SSL was examined. Branches from sacral plexus that coursed between the SSL and STL were noted and their origin and termination determined. Descriptive statistics were used for data analysis.

RESULTS: Ten cadavers were examined. From a gluteal perspective, the closest structure to dorsal surface of IS was the pudendal nerve, median distance 2mm (range 0-8mm). Median distance from IGN to IS and to midpoint of SSL was 31.5mm (21-53mm) and 30.5mm (10-47mm), respectively. The IGN arose from dorsal surface of L5-S1 nerves in 100% of specimens; a contribution from S2 was noted in 47% of hemipelvises. Median thickness of C-SSL complex at its midpoint was 4 mm (2-7mm) and median height of SSL was 14mm (3-20mm). Fusion of SSL and STL was noted a median distance of 19mm (10-36mm) from IS. From a pelvic perspective, the closest structure to superior border of SSL at its midpoint was the S3 nerve, median distance 3mm (0-11mm). In 70% of specimens, 1-3 branches from S3 and/or S4 nerves perforated or coursed ventral to the STL, before perforating the gluteus maximus or the cutaneous tissue just superficial to the muscle. Branches from S3 and/or S4 perforated the ventral surface of coccygeus muscles in all specimens.

CONCLUSION: It is improbable that the inferior gluteal nerve is implicated in postoperative gluteal pain following SSLF procedures. More likely, direct branches from S3 and/or S4, coursing between the SSL and STL may be injured with deep penetration of the SSL. Nerve