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Study Objective: Determine the utility of a novel computer-assisted image guidance system to guide the radiofrequency volumetric thermal ablation (RFVTA) probe during laparoscopic targeting and ablation of uterine fibroids.

Design: Observational, single user feasibility study.

Setting: Outpatient surgery center.

Patients: One gynecologic surgeon experienced in laparoscopic ultrasound-guided targeting and ablation of uterine fibroids, and five premenopausal women (mean age, 42.3±9.2 years) having 3 (range, 2–7) symptomatic subserosal, intramural, and/or submucosal uterine fibroids with diameters of 2.8 cm (range, 1.0–6.7 cm).

Intervention: Electromagnetic Targeting Animation Guidance (TAG) System for aiding the placement of the RFVTA probe.

Measurements and Main Results: Intraoperative computer-assisted image guidance is well established in neurosurgery, spinal surgery and head-and-neck surgery. The TAG System provides laparoscopic surgeons with the spatial relationship between the radiofrequency handpiece tip and the ultrasound plane. A virtual animation of the ultrasound probe combined with an avatar representing the radiofrequency probe illustrates the position and trajectory of the tip, allowing the surgeon to see—in ultrasound—the intraoperative path of the tip into the fibroid. After each use of the TAG system, the surgeon indicated his degree of agreement (1—strongly disagree to 5—strongly agree) with statements regarding features of the TAG system. The surgeon strongly agreed (96%) or agreed (4%) with the helpfulness of the dynamic animation in targeting the fibroid, visualizing the positions of the transducer and handpiece within the pelvic cavity, reaching the fibroid quickly, and providing the surgeon with confidence when targeting the fibroid even during "out-of-plane" positioning of the handpiece.

Conclusion: The TAG system is the first and only FDA-cleared commercial computer-assisted image guidance system for laparoscopic surgery. It displays the relationship of two moving instruments in the abdominal cavity in real-time. Under laparoscopic ultrasound, it provides a positive user experience by facilitating accurate tip placement during targeting and ablation of uterine fibroids.

From April till December 2014, new instrumentation (Titiz utero-vaginal manipulator) and a standardized surgical technique starting with a laparoscopic anterior colpotomy were used in 52 TLH cases (New group). In both group, patient characteristics (eg age, BMI, history of previous surgery) were similar.

Intervention: Total laparoscopic hysterectomy with Titiz uterovaginal manipulator and new surgical technique.

Measurements and Main Results: New group has less mean operation time than historical group (48 min vs 26 min). The uterus was bigger in new group (heaviest uterus: 780 gr vs 426 gr). Conversion to laparotomy rate was 10.6% in historical group and 0% in new group. Main reasons for conversion were big uterus and severe endometriosis requiring bowel resection. There were more vaginal cuff infection (3% vs 1.9%) and bladder injury (1.7% vs 0%) in historical group.

Conclusion: The data and the surgeon’s experience show that introduction of the new instrumentation and standardised surgical technique has led to:

- Reduced operating time
- Reduced conversion to laparotomy rate
- Possible to complete TLH when there is big uterus or severe endometriosis requiring bowel resection
- Easier use of utero-vaginal manipulator when there is only inexperienced surgical and theatre staff assistance available
- Less bladder injury
- More cost-effectiveness

Myosure Hysteroscopic Morcellation for the Management of Submucous Fibroids in an Out-Patient Hysteroscopy Setting

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Study Objective: Audit the use of Myosure hysteroscopic morcellator for removal of submucous fibroids in an ambulatory clinic setting as per NICE recommendations. Study the effectiveness and 1 year outcome of symptom relief.

Design: Retrospective case note review of patients with histological diagnosis of leiomyoma who had removal of pathology with Myosure from January 2014 to December 2014.

Setting: Outpatient hysteroscopy clinic at Queen Alexandra Hospital, Portsmouth, UK.

Patients: Notes were available for 17 out of the 20 patients. Mean patient age was 58.6 years (range 43-86 years).


Measurements and Main Results: 58.9% were post-menopausal whereas 41.1% were pre-menopausal. Indications were menorrhagia (41.1%), PMB (41.1%) and incidental thickened endometrium (11.7%). Size of lesion varied from 1cm-5cm. Type 0, Type 1 and Type 2 fibroids were removed. Average fluid deficit was 495.3 ml.

In a different study we had concluded that Myosure was well tolerated in the out-patient setting (mid-procedure median VAS score-5).

All patients had successful removal of pathology apart from two partial myomectomies (calcified fibroids) and one failed myosure for patulous cervix.

Pathology removed: Benign leiomyomas except one endometrioid adenocarcinoma.

No complications were noted and only one patient required Tramadol in recovery who had endometrial ablation along with Myosure. Symptom resolution noted at 2-month follow up and data for 1-year follow up will be presented at the meeting.

Conclusion: Submucous fibroids can be safely resected using a Myosure device in an out-patient setting. It is well tolerated with minimal complications and is very effective in management of abnormal uterine bleeding. The audit results will be disseminated through the local clinical governance meetings to increase the awareness among gynaecologists to...