

**Type of Procedure in Pediatric Splenic Injury by Injury Grade and Year**

	SAE	NOM	Splenectomy	Total Patients
<b>Grade</b>				
2	170 (1.6%)	10,290 (94.1%)	195 (1.8%)	10,930
3	93 (1.3%)	6572 (93.1%)	257 (3.6%)	7060
4	98 (2.0%)	4066 (85.2%)	470 (9.9%)	4769
5	25 (1.8%)	861 (62.9%)	439 (32.1%)	1369
<b>Year</b>				
2007	11 (0.5%)	1965 (90%)	150 (6.9%)	2814
2008	21 (1.1%)	1807 (90%)	119 (6.0%)	2000
2009	28 (0.8%)	2960 (90%)	226 (6.9%)	3296
2010	50 (1.7%)	2672 (90%)	161 (5.5%)	2953
2011	48 (1.6%)	2745 (91%)	163 (5.4%)	3021
2012	51 (1.8%)	2615 (91%)	152 (5.3%)	2881
2013	44 (1.7%)	2370 (91%)	143 (5.5%)	2613
2014	71 (2.9%)	2192 (90%)	129 (5.2%)	2469
2015	62 (2.3%)	2463 (91%)	118 (4.4%)	2711

## Scientific Session 18

### Uterine Fibroids

Monday, March 30, 2020  
3:00 PM – 4:30 PM  
Room: 607

3:00 PM

Abstract No. 165

#### A comparison of Embospheres versus Embozene for uterine artery embolization

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**Purpose:** To compare procedural, clinical and imaging outcomes of uterine artery embolization (UAE) performed with tris-acryl gelatin (Embosphere, Merit Medical) or hydrogel with polymer coating (Embozene, Varian) embolic agents.

**Materials:** A total of 89 patients underwent uterine artery embolization (UAE) over an 18-month period (December 2017-June 2019) at a single center. A retrospective review was performed of demographics, pre procedure imaging, procedure length and fluoroscopy time, embolic material type and quantity used, and clinical and imaging outcomes. Statistical analysis was used to compare patients treated with Embosphere versus patients treated with Embozene.

**Results:** Six patients were treated with a combination of embolic material and were excluded. Of the 83 eligible patients, 50 were treated with Embosphere and 33 with Embozene. Age, symptom presentation, and uterine volume were not different between groups. The quantity of embolic material used was

significantly less in the Embozene group (3.6 vs. 6.1 vials,  $P = 0.001$ ). Additionally, there was a non-significant trend towards shorter procedure length (79.7 vs. 97.3 minutes,  $P = 0.065$ ) and fluoroscopy time (21.6 vs. 26.2 minutes,  $P = 0.085$ ) for the Embozene group. With regard to clinical outcomes, follow-up was available for 43/50 (86%) patients in the Embosphere group and 26/33 (79%) patients in the Embozene group. There was no difference between groups for menorrhagia improvement (95.5% vs. 88.9%  $P = 0.387$ ) or bulk symptom improvement (93.3% vs. 91.7%  $P = 0.840$ ). Post procedure MRI was available for 29/50 patients in the Embosphere group, and 10/33 patients in the Embozene group. Treatment response was categorized as 100% non-enhancement (NE), >90% NE, >80% NE and <80% NE of fibroids and was not significantly different between groups ( $P = 0.209$ ).

**Conclusions:** This single-center experience demonstrates no significant difference in clinical and imaging outcomes for patients treated with a smaller quantity (mean, 3.5 vs. 6.1 vials) of Embozene versus Embosphere embolic material.

3:09 PM

Abstract No. 166

#### Comparison of reproductive outcomes following uterine fibroid embolization versus robotic assisted laparoscopic myomectomy in patients with symptomatic uterine fibroids

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**Purpose:** To analyze and compare differences in reproductive outcomes following uterine fibroid embolization (UFE) and robotic-assisted laparoscopic myomectomy in patients with symptomatic uterine fibroids and to correlate MRI characteristics with pregnancy outcomes after UFE.

**Materials:** 46 patients undergoing fertility-sparing treatment for symptomatic uterine fibroids between 2006 and 2016 who achieved any subsequent pregnancy at the same institution were analyzed. In the UFE group pre and post procedure MRI imaging data was correlated with pregnancy outcomes. MRI was analyzed in the UFE patient group for uterine volume, number, size and location of fibroids, submucosal grade and cavity distortion.

**Results:** Rates of post procedure spontaneous abortion, preterm cesarean delivery, term cesarean delivery, and vaginal delivery did not differ between the two groups. The rate of composite adverse pregnancy outcomes for deliveries over 24 weeks, including uterine rupture, postpartum hemorrhage, abruptio, and intrauterine growth restriction also did not differ significantly between the UFE and laparoscopic myomectomy groups (36% vs. 28%;  $P = 0.708$ ). Pre procedure uterine volume, number of uterine incisions at myomectomy, predominant fibroid location, and time from procedure to pregnancy event were not associated with the risk of adverse pregnancy outcomes. Among patients who had positive pregnancy outcomes after UFE were associated on MRI with greater uterine volume reduction and lesser cavity distortion post procedure. Patients who underwent UFE were more likely to have bulk symptoms as their presenting fibroid symptom ( $P = 0.001$ ), and to have intramural fibroid location ( $P = 0.043$ ). Patients with pregnancy

after UFE had a smaller average diameter of the dominant fibroid at the time of treatment (5.2 cm vs. 7.4 cm;  $P = 0.0306$ ), but uterine volume at the time of treatment was similar for both groups.

**Conclusions:** UFE and robotic-assisted laparoscopic myomectomy have equivalent reproductive outcomes and comparable rates of adverse pregnancy outcomes. Positive pregnancy outcomes post UFE were positively correlated on MRI with absence of cavity distortion and uterine volume reduction post embolization.

### 3:18 PM

### Abstract No. 167

#### Does the volume matter? Assessment of the association between uterine fibroid volume and postprocedural pain in patients undergoing uterine artery embolization

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**Purpose:** There is a common perception that women undergoing uterine artery embolization (UAE) for a large dominant fibroid or large number of fibroids may experience more pain post procedure than for smaller volume fibroids. The aim of this study is to assess postprocedural pain following UAE for large fibroid volumes as compared to smaller fibroid volumes.

**Materials:** 80 consecutive UAE patient records were reviewed and various metrics including uterine volume, dominant fibroid volume, number of fibroids, peak/average in-hospital pain score, total in-hospital narcotic dose and procedure-related details such as type and size of embolic were analyzed. 8 subjects were categorized separately due to the presence of dominant or co-dominant adenomyosis. Subjects were divided into 3 groups by volume:  $\leq 99$  cm<sup>3</sup> (small), 100-299 cm<sup>3</sup> (medium) and  $\geq 300$  cm<sup>3</sup> (large) and into leiomyomata burden as 1-4 (low), 5-9 (moderate), and 10+ (high). Parametric and non-parametric tests were used to assess the correlation between fibroid volumes and postprocedural pain. Multivariable analysis was also used to assess the impact of individual factors on the in-hospital pain scores.

**Results:** 32 patients (40%) comprised the small volume group, 27 patients (34%) comprised the medium volume group, and 13 patients (16%) comprised the large volume group. Mean peak and average pain scores for the 3 groups were 4.7 (1-10) and 3.4 (1-8), 5.0 (0-10) and 3.6 (0-9.3), and 3.6 (2-7) and 2.7 (1.3-6.3), respectively. No statistically significant difference was found for pain scores between the different volume groups or with regard to number of leiomyomata ( $P$  values  $> 0.05$ ). Presence of adenomyosis was the sole factor that associated with clinically significant higher postprocedural average pain scores ( $P = 0.03$ ).

**Conclusions:** No association was found between fibroid volume/burden and postprocedural pain. Among the measured variables, adenomyosis had the greatest impact on in-hospital pain score. While such fibroid volume/burden pain assessments have been secondary endpoints in prior studies, the ability to demonstrate this lack of association as a primary objective is important for visibility among gynecology colleagues and patients.

### 3:27 PM

### Abstract No. 168

#### Postprocedural antibiotics do not significantly affect rates of endometritis after uterine fibroid embolization

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**Purpose:** To evaluate the need for routine prophylactic postprocedural antibiotics (ABX) following uterine fibroid embolization (UFE) in the prevention of procedure-related endometritis.

**Materials:** Patients undergoing UFE at a single center between January 2013 and September 2019 were enrolled in a retrospective cohort study and divided into two groups. The control group consisted of patients treated before January 2016, who were prescribed postprocedural oral Ciprofloxacin 500 mg BID for 7 days. The study group consisted of patients treated after January 2016, who were not routinely prescribed postprocedural ABX. Patient demographics, procedural details and 90-day follow-up data were collected. The primary endpoint was the rate of endometritis within 90 days post procedure.

**Results:** A total of 434 patients were identified, consisting of 241 in the control group and 193 in the study group. Patient demographics and procedural details were similar in both groups including the diameter of the dominant fibroid, total number of fibroids and total number of vials of embolic material administered ( $P = 0.12$ ,  $P = 0.052$ ,  $P = 0.13$ , respectively). 29/192 (15.1%) patients in the study group underwent UFE with Embosphere particles (Boston Scientific, Marlborough, MA). All other patients underwent UFE utilizing Embosphere particles (Merit Medical Systems, South Jordan, UT). Four (1.7%) and 2 (1%) patients developed endometritis in the control and experimental groups, respectively. Of the cases of suspected endometritis, two patients went on to undergo emergent total abdominal hysterectomy, both of whom were in the control group. One patient in the study group underwent myomectomy of a prolapsing fibroid. All other cases of endometritis were treated with antibiotics alone. The difference in infection rates between the groups was not statistically significant ( $P = 0.69$ ).

**Conclusions:** Foregoing routine postprocedural ABX did not result in a significantly increased rate of procedure-related endometritis in this cohort. However, the cohort is under-powered to demonstrate non-inferiority of the study group, as the reported post-UFE infection rate is exceedingly low.

### 3:36 PM

### Abstract No. 169

#### Preoperative uterine artery embolization before hysterectomy or myomectomy: a case series

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