Utilization and comparative effectiveness of hysterectomy versus uterine artery embolization for clinically significant postpartum hemorrhage: a national inpatient sample study

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Purpose: To evaluate the utilization and comparative effectiveness of various therapies in patients with clinically significant postpartum hemorrhage (PPH) requiring blood transfusion ± an invasive procedure.

Materials and Methods: Using the Healthcare Cost and Utilization Project Nationwide Inpatient Sample database from 2005 through 2017, we identified all women with live-birth deliveries who experienced clinically significant PPH (defined as those receiving a blood transfusion only or transfusion plus hysterectomy or uterine artery embolization [UAE]). Univariate analysis chi-square testing was used to determine demographic and clinical predictors of receipt of various therapies. Logistic regression was used to compare mortality and prolonged length of hospital stay (>14 days) for different treatment groups correcting for statistically significant predictors of receipt of various therapies.

Results: Of 9.8 million identified live births, the overall incidence of PPH was 31.0 per 1,000 live births. The most common intervention for PPH was transfusion, at an average incidence of 116.4 per 1000 cases of PPH. The incidence of hysterectomy to treat PPH was significantly greater than incidence of UAE (20.4 vs 12.9, \(P < 0.001\)). The following factors predicted the type of therapies received: race, maternal age, year of admission, elderly primigravida, previous or current Cesarean section, breech position of fetus, placenta previa, pre-existing hypertension, pre-eclampsia, eclampsia, gestational diabetes, post-date pregnancy, premature rupture of membranes, cervical laceration, uterine rupture, dystocia, forceps delivery and hemorrhagic shock (all \(P < 0.001\)). On logistic regression, the likelihood of mortality from hysterectomy was 3.1 times that of UAE (\(P < 0.001\)). Prolonged hospital stay was 2.1 times more likely with hysterectomy than UAE (\(P < 0.001\)).

Conclusions: Despite lower mortality and shorter hospital stays, UAE is used far less commonly than hysterectomy in the management of clinically significant PPH.

The power of proximity: effects of a multidisciplinary fibroid clinic on inter-specialty perceptions and practice patterns

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Purpose: To compare inter-specialty perceptions and practice patterns before and after creating a multidisciplinary fibroid clinic.

Materials and Methods: Retrospective chart review of 2430 women (average age 45±11 years) seen by gynecology for symptomatic uterine fibroids at an urban academic medical center from 2015-2019 was performed, assessing the type and number of independent, combined, and repeat procedures performed. This was supplemented with interviews with the four clinicians who treated these patients. Interviews were performed by the same researcher approximately two years before and two years after the clinic was founded about their perceptions of fibroid treatments and the specialties that perform these procedures. Interviews were transcribed and systematically coded for key themes and trends by two researchers, independently with excellent agreement (k=0.8).

Results: Since starting the multidisciplinary clinic, the number of uterine fibroid embolizations (UFEs) referred from gynecology rose 197% and the number of combined procedures (e.g. UFE and myomectomy) rose 500%. However, the number of other gynecologic fibroid treatments rose to similar degrees, causing the relative percentage of each procedure out of the total number each year to remain constant. Perceptions of the other specialty as a whole were mixed (positive and negative) and did not substantially change. However, perceptions of the clinic and the involved clinicians were universally positive in retrospect. Clinicians described decreased turf wars and increased collaboration despite the relative shares of procedures not substantially changing. Grounded theory analysis suggests this was driven by external rather than internal factors, which decreased friction that previously inhibited collaboration.

Conclusion: Shared multidisciplinary clinics can increase volume and decrease perceived inter-specialty tension even if relative shares of business do not substantially change. Certain fibroid therapies may be underutilized as a result of not having an environment that facilitate referrals, rather than a lack of awareness of treatment options.

Evaluation of urgent and emergent uterine artery embolization in hospitalized patients for vaginal bleeding

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Purpose: To review the utilization and outcomes of uterine artery embolization (UAE) performed urgently or emergently in hospitalized patients with vaginal bleeding.

Materials and Methods: A retrospective review was performed evaluating hospitalized patients that underwent urgent or emergent UAE for vaginal bleeding from 2009-2019. Basic demographic data was collected for each patient in addition to the number of hospitalizations related to bleeding and length of stay for each hospitalization. Hematologic data was collected both before and after UAE including hemoglobin, hematocrit, transfusion products, and hemostatic interventions other than UAE. Data specific to the UAE procedure included complication rates, 30-day readmission and mortality, embolic agent, and site of embolization. Comparison of pre and post UAE data was then performed using a 2-sided t-test.

Results: 52 patients underwent a total of 55 UAE procedures over the study period. Median age was 39 (20-83). The most common indications for UAE were related to malignancy (28.8%),