RESIDENT RESEARCH AWARD COMMITTEE
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Department of OB/Gyn
RESIDENT RESEARCH DAY

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A. Musa Zamah, MD PhD

DIRECTOR OF RESIDENCY PROGRAM
Valerie Swiatkowski, MD

Funding for this event provided by the Dr. Mary D. Stephenson Resident Research Award
SCHEDULE

1:00PM  Introduction. Mary Stephenson, MD, MS, Department Head of Obstetrics & Gynecology
Venous thromboembolism among reproductive age women
Carolyn Westhoff, MD, MSc

2:00-4:00PM  Opening Remarks. Valerie Swiatkowski, MD & A. Musa Zamah, MD, PhD
Resident Research Presentations

Factors Associated with Symptomatic Anemia and Indication for Blood Transfusion after Total Laparoscopic Hysterectomies
RESIDENT. Jimena Alvarez, MD
RESEARCH ADVISOR. Jessica Shepherd, MD MBA

Ultrasound Attenuation Estimation of the Uterosacral Ligament in Pregnancy: A Pilot Study
RESIDENT. Julianne Morton MD
RESEARCH ADVISOR. William Kobak, MD

To Wash or Not to Wash: A Survey of Handwashing Practices and Knowledge of Physicians
RESIDENT. Rachel Baskin, MD
RESEARCH ADVISOR. Valerie Swiatkowski, MD

Hysterectomy Outcomes by BMI category
RESIDENT. Katrina Porter MD
RESEARCH ADVISOR. Tamika Alexander, MD

2:45PM  BREAK & GROUP PHOTOS

Post-abortion contraception: are medical abortion patients getting short-changed?
RESIDENT. Laura Laursen, MD
RESEARCH ADVISOR. Sadia Haider, MD, MPH

4:00-5:00PM  RECEPTION: MEET DR WESTHOFF, DISTINGUISHED FACULTY
VENOUS THROMBOEMBOLISM AMONG REPRODUCTIVE AGE WOMEN

Distinguished Faculty: Carolyn Westhoff, MD, MSc
Professor of Obstetrics & Gynecology
Professor of Epidemiology & Population and Family Health
Columbia University

BIOGRAPHY Dr. Carolyn Westhoff received her M.D. from University of Michigan and completed residency at S.U.N.Y. Downstate Medical Center. She received an M.Sc. in Epidemiology (Honors) from the London School Hygiene and Tropical Medicine.

At Columbia University, Dr. Westhoff is the Sarah Billinghurst Solomon Professor of Reproductive Health, and Professor of Obstetrics and Gynecology in the College of Physicians and Surgeons and Professor of Epidemiology and Population & Family Health at the Mailman School of Public Health. At Columbia, Dr. Westhoff is Director of the Division of Family Planning and Preventive Services, and was Medical Director of the New York Presbyterian Hospital’s Title X-funded Family Planning Clinics from 1990-2012. Dr. Westhoff is also Senior Medical Advisor for the Planned Parenthood Federation of America.

Dr. Westhoff has served as principal investigator (PI) on numerous research studies on the safety and effectiveness of contraception and abortion, and has published over 200 peer-reviewed articles. Research interests include contraceptive pharmacokinetics and pharmacodynamics, especially among obese women and the development of new contraceptives. Her research on the immediate initiation of contraceptives (“quick start”) has contributed greatly to the current standard of care. Dr. Westhoff has been the Columbia University PI for the NIH-funded Contraceptive Trials Network since 2005.

Dr. Westhoff served on the USPSTF for five years, as well as an NIH study section, and an ACGME review committee. She also has served on the Boards of Directors for Association of Reproductive Health Professionals (ARHP), Society of Family Planning (SFP), The Guttmacher Institute, and Planned Parenthood Federation of America (PPFA). At present, she is the president of the Society of Family Planning. Her professional accomplishments have been recognized by election to the Institute of Medicine and the Lifetime Achievement Award of the Society of Family Planning. In 2013 she became Editor-in-Chief of the journal Contraception.
BACKGROUND. Indication for blood transfusions remains a prevalent complication of laparoscopic hysterectomies. Even with the increasing volume of minimally invasive approaches to hysterectomies, the laparoscopic approach has been shown to have larger blood loss and risk of blood transfusions than the vaginal approach. Of note, more randomized controlled trial data exists for outcomes related to laparoscopically-assisted vaginal hysterectomies than for total laparoscopic hysterectomies, including blood loss and need for transfusions. This underscores the need for further research in total laparoscopic hysterectomies to further investigate these complications.

OBJECTIVE. To investigate the incidence of and to identify perioperative risk factors associated with post-operative symptomatic anemia and indication for post-operative blood transfusions after total laparoscopic hysterectomies.

METHODS. This is a retrospective chart analysis of 226 patients who underwent total laparoscopic hysterectomies for benign or malignant disease at a university teaching hospital between January 1, 2010 and December 31, 2014.

RESULTS. The incidence of symptomatic anemia after total laparoscopic hysterectomies was 36.8% and the incidence of indication for blood transfusion post-operatively was 5.8% among the sample. Among patients with symptomatic anemia after the procedure, 15.5% received a blood transfusion. The mean hemoglobin drop was 3.36 g/dL (SD 1.52) among patients who received a blood transfusion. Symptomatic anemia was more likely in patients with a history of prior laparotomies (OR 9.68, 95% CI 1.39-67.11), and those who had prolonged operative time (OR 1.02, 95% CI 1.00-1.04) or large estimated blood loss (OR 1.01, 95% CI 1.00-1.01).

CONCLUSION. Over one-third of patients undergoing total laparoscopic hysterectomy developed symptomatic anemia and over 15% of those patients received blood transfusions. A history of prior laparotomies, prolonged operative time, or large estimated blood loss are risk factors for symptomatic anemia after total laparoscopic hysterectomy.
BACKGROUND. Connective tissue in the pelvic floor has a key role in maintaining pelvic tissue integrity and elasticity. Moreover, seemingly disparate conditions such as pelvic organ prolapse, urinary incontinence, and pre-term labor have been shown to be related to dysfunction in pelvic floor connective tissue. Ultrasound attenuation estimation (UAE), is a technique of processing ultrasound images which provides information about tissue microarchitecture and integrity. UAE may thus help investigators identify connective tissue alteration through a simple non-invasive test. In preliminary work at the University of Illinois at Chicago, UAE has been used to identify changes in the uterosacral ligament in women with pelvic organ prolapse. The uterosacral ligament is one of the key components in uterine support. Changes in uterosacral attenuation may be an early indicator of the development of other pelvic floor support disorders.

OBJECTIVE. The objective of this study was to determine if there are differences in the Ultrasound Attenuation Estimation (UAE) of the uterosacral ligament between pregnant women versus non-pregnant women.

METHODS. Ten women (five pregnant women and five non-pregnant controls) underwent a transvaginal ultrasound with the Zonare® z.one clinical ultrasound system using the vascular transducer. Two images were taken of the uterosacral ligament and a third image using a phantom solution with a known attenuation was obtained for reference. The images were converted to radiofrequency data using Matlab® software. Attenuation estimates were calculated by the engineering department at the University of Illinois in Urbana-Champaign using an independently validated algorithm. The mean UAE pregnant and non-pregnant was compared using a t-test.

RESULTS. The mean UAE of the uterosacral ligament in the pregnant exposure group was 0.51 dB/cm-MHz (SD 1.244), UAE of the control non-pregnant group 0.57 dB/cm-MHz (SD 1.758) p=0.519. While there was a lower UAE in the pregnant group as hypothesized, these values were not statistically significant.

CONCLUSION. Ultrasonic attenuation estimation has the potential to detect differences in the structure of the uterosacral ligament, but a larger study will be needed to detect a statistically significant difference. This study was able to give some insight into the pregnancy effects on the pelvic floor, and an opportunity to trial a novel approach to evaluating the pelvic floor support structures.
BACKGROUND. Contraception is an integral part of abortion care. We know that women who choose post-abortion long acting reversible contraception (LARC) have lower rates of repeat abortions. One factor that may affect post-abortion contraception initiation is the type of abortion a patient receives. Surgical abortion involves one visit only, whereas medical abortion involves two healthcare visits.

OBJECTIVE. To compare contraception use among patients after medical and surgical abortion.

METHODS. Women who underwent first trimester induced abortion at UI Health between May 2009 and May 2014 were selected for inclusion. Medical records were reviewed to determine the method of contraception utilized after medical and surgical abortion. Post-abortion contraception was defined as any contraceptive method, excluding barrier methods, started within 4 weeks after abortion.

RESULTS. 1,245 women underwent first trimester induced abortions. Of these, 80% (n=1106) were surgical and 20% (n=239) were medical. Women who had surgical abortions were more likely to initiate LARC (41% vs 23%; p<.0001) and receive any type contraception overall (82% vs 64%; p<.0001). Of the subset eligible for either medical or surgical abortion (less than nine weeks gestational age), surgical patients were still more likely to receive LARC (42% vs 23%; p<.0001) and contraception overall (83% vs 64% p<.0001). Among women who received some form of post-abortion contraception after surgical (n=824) or medical abortion (n=153), there was still more LARC use after surgical abortion (50% vs 36%; p<.0004).

CONCLUSION. In an urban university-based clinic, women who had surgical abortions were 2.36 (95% CI 1.71-3.29) times more likely to receive LARC than those who had medical abortions. Surgical abortion patients were also more likely to receive contraception overall. Giving these findings, unique counseling strategies and system-based improvements are needed to ensure medical abortion patients are optimally using post-abortion contraception.
BACKGROUND. Hospital–acquired infections (HAI) represent a major cause of morbidity and mortality in hospitalized patients. Hand hygiene is considered the most important measure for preventing HAI and the spread of multi-drug resistant pathogens. With appropriate hand hygiene, HAI can be reduced by as much as one-third. Despite the simplicity of hand hygiene, adherence rates are dismally low. Lack of knowledge for correct hand hygiene protocol may lead to unintentional noncompliance.

OBJECTIVE. The purpose of this study is to assess healthcare workers’ attitudes, compliance and knowledge of handwashing practices. Information obtained from the survey will be used to address knowledge gaps and develop appropriate strategies to increase hand hygiene compliance and in turn, decrease hospital-acquired infection rates.

METHODS. Participants (n=148) were surveyed on demographics, handwashing behaviors and knowledge. The survey was based on previously validated instruments. The survey was distributed during 7 resident educational conferences at the University of Illinois Hospital over a three-month period in 2014, covering a variety of both medical and surgical subspecialties.

RESULTS. 98% of residents agreed that handwashing is important to prevent hospital acquired infections and 85% believed they are washing hands according to guidelines. However when assessing hand hygiene knowledge, the mean percentage correct was around 50%. There were no significant differences in knowledge by sex or subspecialty. However, surgical subspecialties has significantly better handwashing knowledge than did medical subspecialists (p=.0013)

CONCLUSION. Residents appreciate the importance of hand hygiene in decreasing hospital-acquired infections. However, they are deficient in their hand hygiene knowledge. Educational programs aimed at knowledge deficits may help increase hand hygiene compliance, and therefore decrease infections rates.
BACKGROUND. Hysterectomy is one of the most common major gynecologic procedures performed. Identifying risk factors for complications from surgery is important to try to decrease morbidity. The WHO weight classification system is used to define risk of developing obesity-related health conditions. There are several studies regarding the association of BMI with morbidity of hysterectomy but they have not directly utilized the WHO weight categories to stratify this association.

OBJECTIVE. To examine the differences in perioperative complications of hysterectomies between the WHO defined BMI classes (Overweight, Obesity Classes I/II/III) to determine the implications of this classification on surgical risk. It is hypothesized that there will be higher morbidity from hysterectomy as BMI category increases.

METHODS. IRB approved secondary analysis of preexisting dataset (R. Kindred) collected as a retrospective chart review of all hysterectomies performed at UIC from January 1, 2010 to December 31, 2011 including 198 patients. Inclusion criteria required the cases to have a benign indication for surgery and a documented BMI 25 kg/m². Patients who were excluded were those who had malignant pathology and those who underwent cesarean hysterectomy. Variables analyzed were operative time, EBL, length of stay, wound complications, surgical complications, medical complications, total complications, and need for blood transfusion. Data was analyzed using Chi square (categorical variables) and ANOVA (continuous variables) with follow up planned paired comparisons.

RESULTS. Increasing BMI category was positively associated with increased operative time in minutes (187+/168, 188+/80, 221+/80, and 249+/93 for each BMI category respectively with p=0.001) and percent of cases that incurred surgical injuries intraoperatively (0, 1.4, 6.5, 10.7 respectively with p=004). There were also trends towards increased blood loss and frequency of surgical complications with the higher BMI categories, but these were not significant. No difference was identified in the number of wound complications, medical complications, length of hospital stay, or need for blood transfusion.

CONCLUSION. Patients in higher BMI categories have longer operative time and increased incidence of surgical injuries. Using the WHO BMI classification system, we may be able to better predict and counsel patients regarding risks of surgery.