

fetal heart tones. At the time of delivery, a dusky umbilical cord suggestive of thrombosis was noted. Placental pathology revealed 40% occlusion of umbilical vein and chorangiomas. Chorangiomas is a vascular change of the placenta involving terminal chorionic villi, proposed to result from longstanding, low-grade hypoxia in placental tissue. It has been associated with diabetes, intrauterine growth restriction (IUGR), and hypertensive conditions. Clinical significance has not been studied extensively but case reports suggest correlation with increased fetal morbidity and mortality.

**METHODS:** We identified 56 cases of “chorangiomas” on placental pathology at Henry Ford Hospital from 2010–2015. We reviewed factors such as: maternal age, BMI, smoking status, maternal health conditions, antenatal fetal issues, gestational age, mode of delivery and fetal outcome.

**RESULTS:** Average age was 27.6 years; 20% of advanced maternal age. 16% of cases associated with hypertensive disorders, 11% with diabetes, 11% with IUGR and 45% associated with maternal obesity. 30% associated with current or former smokers. One resulted in neonatal death, 1 intrauterine fetal demise and 18% of deliveries were pre-term. 52% of deliveries were by cesarean section, with the most noted indication being abnormal fetal heart tones.

**CONCLUSION:** Chorangiomas may contribute to increased rates of cesarean section due to abnormal fetal heart tones from longstanding hypoxia coupled with the stress of labor. Further studies are needed to characterize the association of chorangiomas with subsequent infant health outcomes.

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## The Increasing Trends and Serious Morbidity of Primary Cesarean Delivery [4P]

Alex Fong, MD

Long Beach Memorial Medical Center, Long Beach, CA  
Ebony King, Jennifer Duffly, MD, Lili Sheibani, MD, Deyu Pan, BSc,  
and Dotun Ogunyemi, MD

**INTRODUCTION:** To describe the trends over time of primary cesarean delivery (CD) and compare sociodemographic features and morbidity in patients undergoing primary CD.

**METHODS:** A retrospective cohort study was performed using California discharge data. All term, vertex, singleton deliveries from 2001–2009 were analyzed. We excluded cases of malpresentation, preterm delivery, and fetal death. Cases were identified via ICD-9-CM. Logistic regression was performed to adjust for potential confounders.

**RESULTS:** Out of 3,365,055 deliveries, there was a primary CD rate of 15.2%. Primary CD incidence increased considerably during the time period, going from 12.6% in 2001 to 17.0% by 2009. African Americans had the highest primary CD rate (17.9%) while Native Americans (12.9%) and Hispanics (14.0%) had the lowest rates. Advancing maternal age corresponded with dramatically increased primary CD rate. When comparing delivery morbidity in subjects undergoing primary CD compared to VD, primary cesarean delivery was associated with an increased risk of anesthesia-related complications, thromboembolism, and a nearly 10-fold increase in postpartum endometritis. Severe morbidities including coagulopathy, hysterectomy, critical care morbidity were increased 3- to 9-fold. There was a 6-fold relative increase in death in women who had a CD. However, primary CD did have decreased risk of vaginal delivery related morbidity.

**CONCLUSION:** Primary CD rates are increasing. In addition to having risks for future pregnancies, primary CD is associated with increased rates of serious morbidity and mortality at the immediate time of delivery. This data should be used in quality improvement initiatives to stress the importance of primary CD for only appropriately indicated cases.

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## Comparing Spontaneous Labor Outcomes in TOLACs and Nulliparas [25P]

Sarah Connor

BWH/MGH ObGyn Resident, Boston, MA  
Teodora Kolarova, Julian Robinson, MD, MB, BS, Anjali Kaimal,  
and Sarah Little, MD, MPH

**INTRODUCTION:** To compare spontaneous labor outcomes in women undergoing TOLAC to nulliparas to aid in counseling and management.

**METHODS:** A 4-year retrospective cohort at two tertiary care centers. We included women at term in spontaneous labor with vertex singletons and no more than one prior cesarean section. TOLACs were matched 1:1 with contemporaneous nulliparas. Maternal demographics and maternal and neonatal complications were abstracted from the medical record.

**RESULTS:** Our cohort included 1,212 women: 606 TOLACs and 606 nulliparas. Women undergoing TOLAC were older (31.5 vs. 29.3 years;  $P < .01$ ), heavier (BMI 26.1 vs. 24.7;  $P < .01$ ), more likely to be black (16.9% vs. 11.8%;  $P < .01$ ) or Hispanic (17.4% vs. 15.3%;  $P \leq .01$ ) and to have diabetes (4.1% vs. 1.3%;  $P < .01$ ) or hypertension (6.4% vs. 3.3%;  $P \leq .01$ ). Women undergoing TOLAC were more likely to undergo cesarean delivery (CD) (25.7% vs. 14.7%;  $P < .001$ ). There was no difference in emergent CD or maternal or neonatal complications, with the exception of severe hemorrhage (1.5% vs. 0.2%;  $P = .02$ ). In our cohort, the predicted success score from the MFMU-VBAC calculator ranged from 22.0% to 84.7% with 20.6% having a score less than 50%. We considered women to be “good TOLAC candidates” if their score was 70% or greater (29.7% of our sample). Comparing good TOLAC candidates to all nulliparas, there was no difference in CD rate (16.7% vs. 14.7%;  $P = .51$ ) nor any difference in maternal or neonatal complications.

**CONCLUSION:** Labor outcomes were similar in women presenting in labor undergoing TOLAC and nulliparas. “Good TOLAC candidates” were no more likely to experience a CD or complication.

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## Accumulation of Adiposity Fetal During Pregnancy: A Cohort Study [5P]

Antonio H. Franca Neto, MD

Faculdade de Ciências Médicas de Campina Grande, Campina Grande, Brazil

Melania M. Amorim, MD, PhD, Adriana S. Melo, Maria do Carmo P. Lima, Aline Sena, and Lívia Dantas

**INTRODUCTION:** Maternal nutritional status and gestational weight gain may impact on fetal growth and metabolic responses, increasing the accumulation of fetal adiposity and risk of future obesity. To evaluate the fetal adipose tissue accumulation during pregnancy and fetal and maternal factors associated.

**METHODS:** Cohort study with 200 pregnant women. The fetal adiposity was assessed by ultrasound at 28 and 36 weeks gestation. Furthermore, maternal anthropometry was evaluated.

**RESULTS:** The mean fetal abdominal circumference (FAC) and fetal thigh circumference were  $24 \pm 1.1$  cm and  $11.2 \pm 1.1$  cm (28 weeks) and  $32.2 \pm 1.6$  cm and  $17 \text{ cm} \pm 1.8$  (36 weeks), respectively. Correlation between the FAC and the weight of the pregnant was observed in 28 and 36 weeks ( $P < .0001$ ;  $P < .0001$ ). There was a correlation between fetal visceral adiposity (FVA) at 28 weeks pregnant and the following variables: weight ( $P < .0001$ ), waist circumference ( $P < .0001$ ), weight gain ( $P < .001$ ), fat subcutaneous ( $P < .0001$ ), BMI ( $P < .0001$ ), pre-pregnancy weight ( $P < .0001$ ), visceral adiposity at 16 weeks ( $P < .0001$ ) and after partum ( $P < .0001$ ). At 36 weeks was also correlation between FVA and the following maternal variables: weight ( $P < .0001$ ), waist circumference ( $P < .0001$ ), weight gain ( $P < .0001$ ), subcutaneous fat ( $P < .0001$ ), BMI ( $P < .0001$ ) and with pre-pregnancy weight ( $P < .0001$ ). There was still at 28 weeks association fetal weight and subcutaneous fat of pregnant women ( $P = .02$ ).



**CONCLUSION:** The nutritional status and maternal weight gain influenced the accumulation of fetal adiposity during pregnancy.

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## ONCOLOGY

### Immunohistochemical Expression of Bronchial Dysplasia Associate Proteins in Uterine Cervical Lesions [6P]

Hidegori Sasa, MD

National Defense Medical College, Tokorozawa, Japan  
Ayako Suzuki, PhD, Kiguna Sei, MD, Hideyuki Shimazaki, MD,  
Michio Sugita, MD, and Kenichi Furuya, MD

**INTRODUCTION:** Bronchial dysplasia associate proteins are involved in the proliferation, cell differentiation and adhesion, tumorigenesis, invasion and metastasis of cancer. We examined the immunohistochemical expression of bronchial dysplasia associate proteins in uterine cervical lesions.

**METHODS:** Specimens from 32 patients with uterine cervical intra-epithelial neoplasia (CIN) or uterine cervical invasive carcinoma were immunohistochemically evaluated for the expression of the 6 proteins associated with bronchial dysplasia: serpin peptidase inhibitor B2 (SERPINB2), carboxypeptidase A4 (CPA4), keratin 6A and 13, interleukin 1 receptor antagonist (IL-1Ra), small proline-rich protein 3 (SPRR3) and desmoglein 3 (Dsg3). Immunohistochemistry staining intensity was quantitatively scored from 0 to 2+. This study was approved by the Institutional Review Board.

**RESULTS:** The positive expression rates of SERPINB2, CPA4, Dsg3 and SPRR3 were 84%, 62.5%, 27%, and 18.9% in the uterine cervical cells, 87.5%, 75%, 70.3%, and 0% in the biopsy tissue specimens, respectively. The expression of keratin6A/13 was not specific, and the expression of IL-1Ra only in the cervical dysplastic cells revealed positive, but negative in normal cells and cervical invasive carcinoma cells, and in all biopsy tissues. The expression of SERPINB2 seemed to have positive correlation with the progression of lesions, but the expression of CPA4 in only the dysplastic cells revealed positive.

**CONCLUSION:** SERPINB2 might be useful as a marker for uterine cervical lesions because it was expressed according to the grade of the CIN and cervical invasive carcinoma specimens. CPA4, Dsg3, and IL-1Ra could be potential immunohistochemical markers for uterine cervical lesions because of positive expression in the dysplastic cells.

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### Exacerbation of Migraines Following Robotic Surgery for Endometrial Carcinoma [7P]

John P. Geisler, MD

Cancer Treatment Centers of America, Athens, GA  
Rama Rao, MD, and Kelly J. Manahan, MD

**INTRODUCTION:** Robotic hysterectomies are becoming increasingly common in the United States. Although benefits exist, risks are also present. The purpose of this study was to see what percentage of women with migraine headaches had a post-operative exacerbation.

**METHODS:** Records were examined for the diagnosis of migraine headaches as well as post-operative diagnosis of a headache. Records were also examined for age, estimated blood loss, total skin to skin operative time and body mass index.

**RESULTS:** Surgeries and records for 100 women were examined. Only 6% of women complained of post-operative headaches. However, 45% of women with history of migraines complained of post-operative headaches ( $P < .001$ ). Age was the only significant factor with women having post-operative headaches being significantly younger ( $P = .009$ ).

**CONCLUSION:** Post-operative headaches were more common in women with a pre-operative history of migraine headaches than in those without a history. Patients with a history of migraines should be warned of this risk.

**Financial Disclosure:** Dr. Geisler (Gynecologic Oncologist, Cancer Treatment Centers of America) disclosed the following—Intuitive Surgical: Speaker/Honoraria includes speakers bureau, symposia, and expert witness; Plasma Surgical: Consultant/Advisory Board, Speaker/Honoraria includes speakers bureau, symposia, and expert witness. Dr. Manahan (Gynecologic Oncologist, Cancer Treatment Centers of America) disclosed the following—Intuitive Surgical: Speaker/Honoraria includes speakers bureau, symposia, and expert witness; Plasma Surgical: Consultant/Advisory Board, Speaker/Honoraria includes speakers bureau, symposia, and expert witness. The other author did not report any potential conflicts of interest.

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### Prophylactic BSO in an Adolescent Patient With a SMARCA4 Mutation and a Family History of Small Cell Ovarian Carcinoma [8P]

Brad Nitzsche, MD

University of Illinois College of Medicine Peoria, Peoria, IL  
Kathryn A. Zavala, MD, and Rebecca J. Byler Dann, MD

**INTRODUCTION:** Small cell carcinoma of the ovary hypercalcemic type is a rare malignancy that affects young women. Mutations in the SMARCA4 gene have been implicated as the main factor underlying oncogenesis and correlate strongly with disease presence. Several germline mutations with multiple affected family members have been described, although little is known about disease penetrance.

**METHODS:** We describe our experience with a young asymptomatic patient found to have a SMARCA4 mutation and strong family history.

**RESULTS:** A 15 year old female with two half-sisters diagnosed with SMARCA4 positive SCCOHT tested positive for the SMARCA4 gene mutation during screening of family members. The patient ultimately opted for prophylactic bilateral salpingo-oophorectomy. She underwent both genetic and reproductive endocrinology consultations preoperatively, but elected to forgo oocyte preservation. She is currently being treated with hormone replacement therapy.

**CONCLUSION:** With recent advances in our understanding of the genetic basis of SCCOHT, identifying germline SMARCA4 mutation carriers at an early age will become more common. Management of these patients is challenging, given young age of disease onset, highly lethal course, and unknown gene penetrance. Prophylactic salpingo-oophorectomy is a reasonable therapeutic option, but requires aggressive management of subsequent surgical menopause and threatened fertility.

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### Staging Locally Advanced Uterine Cervical Carcinoma With Positron Emission Tomography—Computed Tomography [9P]

Melania M. Amorim, MD, MSc, PhD

Instituto de Medicina Integral Professor Fernando Figueira—IMIP,  
Campina Grande, Brazil

Leila Katz, MD PhD, Isabela Coutinho, MD, PhD, Tien-Man Chang, MD, MSc,  
Carla Rameri, MD, MSc, and Ricardo Machado e Silva, MD

**INTRODUCTION:** Uterine cervical cancer is the third most frequent cancer among Brazilian women. Cervical cancer is staged following the International Federation of Gynaecology and Obstetrics (FIGO) system based on physical examination that is not sufficiently accurate to identify nodal involvement, the most important variable for survival. The aim of this study is to compare clinical staging of uterine cervical cancer with the results of Positron Emission Tomography/Computed Tomography (PET/CT) with [18F]-fluoro-2-deoxy-D-glucose (FDG) in Northeast of Brazil.

**METHODS:** This cross section study was conducted in a reference hospital in Northeast of Brazil. Women aged 18–70 years with newly and histologically proven squamous cell carcinoma of uterine cervix, International Federation of Gynaecology and Obstetrics (FIGO) stages IB2–IVB and Eastern Cooperative Oncology Group (ECOG) performance status 0–2 were included. All the patients were submitted to FDG PET/CT. Staging with and without FDG PET/CT were compared and Kappa coefficient was calculated. The rates of upstage and

