



DALHOUSIE
UNIVERSITY

Inspiring Minds

Department of
Obstetrics and Gynaecology

24th Annual Resident Research Day

Thursday, April 29, 2010

Parker Reception Room
IWK Health Centre

Program Sponsorship

We gratefully acknowledge financial support for this program from:

Research Services, IWK Health Centre

**Atlantic Society of
Obstetricians and Gynaecologists**

and

Canadian Foundation for Women's Health

**Resident Research Day
Department of Obstetrics and Gynaecology
Dalhousie University**

April 29, 2010

- 0845 Reception with Coffee/Muffins/Fruit
PARKER RECEPTION ROOM
- 0900 Welcome – Dr. B.A. Armson
Professor and Head,
Department of Obstetrics and Gynaecology
- 0915 INVITED SPEAKER**
Introduction by Dr. Tony Armson
Dr. Louise Parker
Canadian Cancer Society Chair in Population Cancer Research
Professor, Dalhousie University
One Thousand Families from Newcastle: a 60 year old birth cohort
- 1000 **Session I: Moderator, Dr. Linda Dodds**
- 1005 Melissa Brooks, PGY 2
The effect of distance on gestational age of women presenting for surgical abortion in New Brunswick
- 1020 Jillian Coolen, MFM Fellow
Maternal Anaesthetic and Perinatal Outcomes Among Women at Term Requiring Referral or Transfer to a Tertiary Maternity Centre
- 1040 Robyn Comeau, PGY 2
Risk of secondary malignancy in women diagnosed and treated with ovarian cancer
- 1055 Robyn MacQuarrie, PGY4
Analysis of H1N1 Vaccine Policy Amid Atlantic Provinces.
- 1110 BREAK**
- 1130 Kim MacDonald, PGY2
A Pilot Study to Determine the Precision of a Novel PCR Based Fetal Rhesus D test.
- 1145 Allison Ball, PGY4
Multiple Ovarian Fibromas in a Paediatric Patient with Basal Cell Nevus (Gorlin) Syndrome
- 1205 Jordan Green, MED 2
Is there a role for AMH testing in Canada?

1230 LUNCH (Classroom B&C)

1330 INVITED SPEAKER:

INTRODUCTION: Dr. Alf Bent

Dr. Tim Rowe

Editor: Journal of Obstetrics and Gynaecology of Canada (JOGC)

Publishing in Academic Journals: Now and The Future

Session II: Moderator Dr. Nancy Van Eyk

1430 Anne Berndl, PGY 4

Fetal Movement Monitoring: How Are We Doing as Educators?

1450 Mike Ripley, PGY 2

Mirena and Endometrial ablation vs. ablation alone for DUB: A pilot randomized controlled trial

1505 Mike Hartman, Memorial University

The Diagnosis of Uterine Anomalies using 3D Ultrasound vs 3D Sonohysterography

1525 Elinor Lu-Olaco, PGY 3

A Five Year Audit on Diagnoses and Outcomes in an Early Pregnancy Complications Clinic : 2005-2009

1545 Ashley Waddington, PGY4

Folic acid as a determinant for preterm birth, low birth weight and small-for-gestational-age: a systematic review and meta-analysis.

1605 Anna Coolen, PGY4

Elective repeat caesarean delivery: fetal lung maturity testing and neonatal respiratory morbidity

1630 Awards Presentation

Parker Reception Room

Cocktails and Hors d'oeuvres to be served

Abstracts

Title: The effect of distance on gestational age of women presenting for surgical abortion in New Brunswick.

Melissa Brooks PGY2 ; Isabelle Delisle

Purpose: Access to abortion services is poor in some parts of Canada, especially in areas with large rural populations. Evidence shows that the rate of complications associated with abortion is directly related to the gestational age at which the procedure is done. To date, few studies have looked at whether there is a correlation between the distance a woman must travel to access abortion services and the gestational age at which she has the procedure.

Methods: A retrospective chart review will be performed at the Morgentaler Clinic in Fredericton, NB. Data will be collected on patients' age, gestational age at the time of abortion, and the distance from home address to clinic. Women with addresses outside the Atlantic provinces, or with incomplete charts will be excluded.

Data analysis: A logistic regression analysis will be used to determine if there is a correlation between distance travelled and gestational age at the time of the abortion.

Hypothesis: Women who must travel farther to gain access to abortion services will likely present for treatment at a later gestational age, thus exposing them to a greater risk of morbidity. It is hoped that this information can be used to lobby for more equal access to abortion services around the country.

Title: Maternal, Anaesthetic & Perinatal Outcomes Among Women at Term Requiring Referral or Transfer to a Tertiary Maternity Centre

Coolen J, Allen V, Campbell J, Jangaard K, McKeen D, Jorgensen S & Scott H

Objective: To determine the impact of maternal obesity on adverse outcomes in term pregnancies with delivery in regional maternity centres compared to those requiring referral or transfer to tertiary maternity centres.

Study Methods: A 20-year, population-based cohort study using the Nova Scotia Atlee Perinatal Database compared maternal, anaesthetic and perinatal outcomes in term, high-risk pregnancies referred or transferred to a tertiary maternity centre with high-risk pregnancies delivering in regional maternity centres and with pregnancies planned for delivery in the tertiary maternity centre. Multiple gestation and those with major anomalies were excluded. Univariate and multivariable logistic analyses were performed and odds ratios (ORs), adjusted ORs and 95% confidence intervals (CIs) calculated.

Results: The study population included 188,064 pregnancies, 14,148 (8%) of which were classified as obese. Induction of labour (OR 0.88, 95% CI 0.79-0.97) and anaesthetic complications (OR 0.28, 95% CI 0.17-0.45) were significantly lower for obese women referred or transferred to a tertiary centre compared to those deliveries local to the tertiary centre, while induction of labour (OR 1.20, 95% CI 1.08-1.32) was significantly higher for obese women referred or transferred to a tertiary centre compared to those deliveries local to regional centres. There was no difference in rates of caesarean delivery or NICU admission greater than 24 hours.

Conclusion: Pregnancies complicated by obesity with referral to a tertiary maternity centre at term, primarily for anaesthetic concerns, are more likely to undergo induction of labour, but are not more likely to have caesarean delivery or have anaesthetic complications compared to pregnancies complicated by obesity delivered in their regional hospital.

Title: Risk of secondary malignancy in women diagnosed and treated with ovarian cancer

Robyn Comeau PGY2; Katharina Keiser

Introduction: Cancer is a disease that touches every Canadian directly or indirectly. An estimated 1 out of every 4 Canadians is expected to die from cancer. If there was a way to predict who is at an increased risk of developing certain types of cancer, individual lifestyle changes and population policy could decrease the morbidity and mortality of cancer. Individual patients, communities, governments may increase involvement if identifiable risks are identified.

Purpose: The purpose of this study is to determine if there is an increase in the risk of secondary malignancy in women who have been diagnosed and treated for ovarian cancer when compared to the general population.

Methods: Women diagnosed with ovarian cancer and treated in the province of Nova Scotia will be recruited from the gynecology oncology database. The province has one center for referral for oncology therefore it is safe to assume that we would identify the majority of the affected population. The gynecology oncology database will be linked with the Nova Scotia Cancer database to ensure that secondary malignancies are accounted for in our study population.

Data Analysis: The incidence for the general population rates will be provided from the Nova Scotia Cancer database. The incidence calculated from the gynecology oncology database will then be compared to the population risk to provide a likelihood ratio.

Hypothesis: I hope to show that women who have been diagnosed and treated (surgery alone, chemotherapy alone, both treatment modalities) with ovarian cancer are at increased risk of developing both hematologic and solid tumors when compared to the general population. I also hope to show that overall the survival with a secondary malignancy is shortened compared to the general population who present with the same cancer.

Title: Analysis of H1N1 Vaccine Policy Amid Atlantic Provinces

Robyn MacQuarrie, Françoise Baylis

The H1N1 flu pandemic was arguably the most controversial and alarming health care issues of 2009. This was a crisis of particular concern to pregnant women, their families and health care providers. Early data from national and international sources identified pregnant women to be at heightened risk of disease burden as a result of H1N1 influenza infection.

Concern about the morbidity of this virus resulted in a swift national commitment to purchase vaccines as soon as they were available. This action followed the Canadian Pandemic Preparedness Plan, which has been developed and disseminated by the Public Health Agency of Canada to protect Canadians in pandemic scenarios. Purchased based on a national commitment to provide vaccines, these vaccines were distributed on a provincial level. While national organizations, such as the SOGC, made recommendations with respect to immunization against H1N1 (and antivirals such as Tamiflu), administration was governed by provincial health bodies.

During the administration of H1N1 vaccine to Canada's pregnant women, there was confusion and concern with regards to which vaccine should be given to pregnant women, and when antivirals should be prescribed and administered. While some Atlantic provinces adhered to SOGC recommendations, confusion persisted in the face of variable vaccine delivery across the county. This session will take a justice approach to analyze variability among Atlantic Provinces in administering of the H1N1 vaccine to pregnant women (including adjuvanted and unadjuvanted doses) and discuss whether policy and practice were cohesive or fractured.

Title: A Pilot Study to Determine the Precision of a Novel PCR Based Fetal Rhesus D test

Kim MacDonald, Robert Liwski, MD, Michiel Van den Hof, MD

Introduction: In Canada, we offer universal anti-D IG prophylaxis to all Rh negative pregnant women routinely at 28w gestation, with invasive testing procedures, at any episode of vaginal bleeding during pregnancy and within 72 hours of delivery of an Rh positive baby. The goal of a universal prophylaxis approach is to minimize the incidence of Rh alloimmunization, however, 40-45% of Rh negative women carry Rh negative fetuses and don't require prophylaxis if safe pre-natal diagnosis can be performed.

Purpose: This pilot study will evaluate the precision of a PCR based diagnostic test to determine fetal Rh typing in utero from fetal DNA present in maternal serum.

Methods: Rh negative pregnant women with singleton pregnancies between 16 and 24 completed weeks gestation will be recruited for this study. A sample size of 133 patients is required (powered to 95% sensitivity, alpha=0.5). Participants will provide a single blood sample which will be analyzed by quantitative PCR for fetal Rh typing. Test results will be compared to fetal Rh typing determined from cord blood at the time of delivery (gold standard).

Data Analysis: Test precision will be evaluated by Chi Square analysis to determine: sensitivity, specificity, positive predictive value, negative predictive value and post-test probability. The false negative results will also be carefully evaluated as they will largely influence the clinical applicability of this test.

Hypothesis: A PCR based pre-natal fetal Rh diagnostic test that uses differential maternal/fetal DNA methylation as a positive control for fetal DNA will be at least 95% sensitive (5% CI) for detecting fetal Rh status.

Title: Multiple ovarian fibromas in a paediatric patient with Basal Cell Nevus (Gorlin) Syndrome

Allison Ball, MD, Joan Wenning, MD, Nancy Van Eyk, MD

BACKGROUND: The development of ovarian fibromas in the pediatric population is rare. When diagnosed, the possibility of basal cell nevus (Gorlin) syndrome must be considered. The syndrome includes multiple cutaneous basal cell nevi and other pathological entities.

CASE: A 15 yr old girl presented with abdominal discomfort. An ultrasound identified what appeared to be a 6 cm anterior fibroid. A subsequent MRI showed multiple enhancing bilateral adnexal masses, the largest measuring 5.5 cm x 6.1 cm x 5.6 cm. Tumor markers were negative. The patient underwent laparoscopic bilateral cystectomies. Multiple ovarian fibromas were identified, 10 on each side, ranging from 3mm to 7cm in size. Other pelvic and abdominal structures appeared normal. Pelvic fluid cytology was negative and the pathology report confirmed benign fibromas.

The patient's history was significant for a medulloblastoma at age two. Subsequently she developed partial pituitary failure, requiring thyroid and growth hormone replacement. At age five, she developed central precocious puberty requiring a GnRH agonist until age 11. At age 13, with no signs of spontaneous puberty, she was commenced on hormone replacement therapy.

Concurrent with her gynecologic course, she was assessed by both oral surgery for maxillary cystic lesions, and dermatology for multiple basal cell nevi. Given her constellation of findings, she was referred to medical genetics. A diagnosis of basal cell nevus (Gorlin) syndrome was confirmed.

COMMENTS: One must consider the diagnosis of Gorlin Syndrome when a pediatric patient is diagnosed with ovarian fibromas. If diagnosed, these patients benefit from gynecologic surveillance and counseling.

Title: Is there a role for AMH testing in Canada?

Jordan Green, MED 2; Dr. G. Graves

Abstract

Anti-Müllerian hormone (AMH), traditionally known for its function in male sex differentiation, is an increasingly important subject of female fertility research. Recent evidence has shown that AMH has other physiological roles, including inhibition of early follicular recruitment and FSH-dependent follicular growth in the female ovary. Absence of AMH in mice has been shown to cause premature ovarian failure. In addition, many studies have demonstrated that AMH can be used as a marker of ovarian reserve. Serum AMH levels correlate strongly with the number of antral follicles and levels decline throughout reproductive life. Several studies have determined that AMH levels change earlier than traditional biomarkers of ovarian function, such as early follicular FSH. AMH levels have also been shown to predict age of menopause. Unlike other markers of ovarian reserve, AMH levels do not vary between or within menstrual cycles. These factors make AMH an ideal test of ovarian reserve. This leads to the question: is it time to offer AMH testing to Canadian women experiencing infertility? This presentation will review the literature on AMH and explore the pros and cons of offering the test.

Title: Fetal Movement Monitoring: How Are We Doing as Educators?

Berndl A, O'Connell C, McLeod L

Objective: Delay in seeking care when decreased fetal movement (DFM) is noticed is associated with poor perinatal outcomes, including stillbirth. It is the responsibility of healthcare providers to educate women about normal fetal movement and what to do when it is abnormal. In 2009, a cohort study of 65,550 women was published, demonstrating that uniform education surrounding normal fetal movement and instructions on how to respond to decreased fetal movement decreased the stillbirth rate in women presenting with DFM from 4.2% to 2.4%. The overall stillbirth rate decreased from 3/1000 to 2/1000. Importantly, there was no increase in adverse perinatal outcomes, and no increase in the number of women presenting for assessment. This study aimed to demonstrate our pregnant population's understanding of normal fetal movement and response to DFM. It aimed to use this information to potentially guide educational interventions to improve perinatal outcomes.

Methods: 440 surveys were distributed and 306 surveys were collected anonymously from women over 26 weeks attending prenatal clinics at the IWK Health Centre in Halifax, NS. 304 of these met the inclusion criteria. Information collected included: demographics, pregnancy history, understanding of normal fetal movement, monitoring techniques and patient response to DFM. Descriptive and regression analysis were performed using SPSS, and a p value of <0.05 was considered statistically significant.

Results: 18.5% (55/298) of women demonstrated accurate knowledge of normal fetal movement and fetal monitoring and indicated they would present to care in a timely fashion if they experienced DFM. 54.7% (164/300) of participants would contact a healthcare professional if they noticed DFM, however 2/3 were unable to describe normal fetal movement or monitoring techniques. 29.6% (90/304) of participants did not identify that they should experience daily fetal movement, and 37.5% (114/304) reported that it may be normal for fetal movement to stop around their due date.

Discussing fetal movement with a healthcare professional significantly increased the likelihood of having the knowledge needed to present to care in a timely fashion if DFM was experienced (vs 26.3% vs 3.9%. $p < 0.001$), as did receiving a kick count chart (38.8% vs 14.9%, $p < 0.001$)

Discussion: This study suggests pregnant women are undereducated about normal fetal movement and how to respond to DFM. This information is being used to create educational materials for use at the IWK. Educational interventions may lead to earlier presentation, and possibly a decrease in the stillbirth rate.

Title: Mirena and endometrial ablation vs. ablation alone for DUB: A pilot randomized controlled trial.

Mike Ripley, David Rittenberg

Introduction: Global endometrial ablation has become a common treatment for patients with dysfunctional uterine bleeding (DUB). Ablation spares patients the morbidity associated with hysterectomy, but is not a definitive treatment; amenorrhea is attained in 50% of patients, with hysterectomy rates of 10-25% five years after treatment. The levonorgestrel-releasing intrauterine device (LNS-IUD, Mirena) is also used to treat DUB. Although available data suggest that the LNS-IUD is as efficacious as ablation for DUB, many patients discontinue this treatment due to expulsion of the device or irregular bleeding. To our knowledge, no prospective studies have investigated a combination therapy of endometrial ablation and LNS-IUD for treatment of DUB.

Purpose: The purpose of the study is to evaluate the effectiveness of combined endometrial ablation and LNS-IUD versus ablation alone using estimated monthly menstrual blood loss, attainment of amenorrhea, subsequent hysterectomy, and patient satisfaction as outcomes.

Methods: Patients presenting to the gynecology ambulatory clinics at the IWK Health Centre with a chief complaint of menorrhagia will be counseled in the usual manner regarding management options (i.e. expectant, medical, surgical). Patients indicating a desire for endometrial ablation will be recruited and screened for participation in this pilot randomized controlled trial.

Patients will be randomized to either combination therapy with both LNS-IUD and endometrial ablation or to ablation-only. Patients in the ablation-only group will undergo bipolar electrical impedance-controlled ablation (Novasure) or thermal balloon ablation (ThermaChoice) in an operating suite. Patients in the combined ablation and LNS-IUD group will have an ablation in the same manner, with a Mirena IUD inserted post-ablation and adequate placement of the device checked with a hysteroscope.

Patients and the clinical team will not be blinded due to the nature of the interventions, however the data analysis will be performed in a blinded manner. Outcome data will be collected at 3, 12, and 24 months post-treatment.

Data Analysis: Difference in the mean post-treatment pictorial assessment of blood loss (PBAC) is the primary outcome of this study. This study will require 12 patients in the combination Mirena/ablation arm and 24 patients in the ablation-only arm to have 80% power to detect a 60-point difference in PBAC score. A Chi-square test will be used for amenorrhea data, and a t-test will be used for PBAC data.

Hypothesis: In female patients between the ages of 30-55 with DUB, a combination of global endometrial ablation and Mirena IUD will result in less menstrual bleeding, higher rates of amenorrhea, and fewer patients requiring additional therapies than global endometrial ablation alone.

Title: The Diagnosis of Uterine Anomalies using 3D Ultrasound vs 3D Sonohysterography

Michael Hartman, Jason Hartman, Carmen Oprea, Brian Hartman, and Alex Hartman

Introduction: The purpose of this study is to compare 3D Sonohysterography (3D SHG) and 3D Ultrasound (3D US) in detecting uterine anomalies.

Materials and Methods: This prospective blinded study involved 600 consecutive women being investigated for infertility referred for SHG and sonohysterosalpingography. Each patient had evaluation of their uterus using both 3D US and 3D SHG on separate visits, in the same cycle, performed by sonographers with extensive experience. Modified ASRM criteria were used in order to classify uterine anomalies, by an experienced radiologist blinded to each study's results. The sensitivity, specificity, positive predictive value and negative predictive value were calculated for 3D US compared to 3D SHG. The Pearson's chi-square test for independence and McNemar-Bowker test for symmetry were used to compare the two samples.

Results: 23.2% of patients (n = 139) were diagnosed by 3D US to have uterine anomalies. 18.7% of patients (n = 112) were diagnosed with an arcuate uterus, which was the most common anomaly found. 1.5% (n=9) were diagnosed with partial septum, 1.2% (n = 7) had a complete septum and 1.8% (n = 11) were diagnosed as having a borderline arcuate/partial septum on 3D US. In the 3D SHG group, 34.2% of patients (n = 205) were found to have a uterine anomaly. 28.3% of patients (n = 170) were diagnosed to have an arcuate uterus using 3D SHG. In addition, 2.2% (n = 13) had a partial septum, 1.7% (n = 10) had a complete septum, 0.2% (n = 1) were found to have a bicornuate uterus and 1.8% (n = 11) were diagnosed with a borderline arcuate/partial septum. Using 3D SHG as the standard, 3D US had a sensitivity, specificity, positive predictive value and negative predictive value of 51.7%, 91.6%, 76.3% and 78.5% (Pearson Chi-square = 959.955; df= 20; p<0.000, McNemar-Bowker =40.174; df=1; P<0.000).

Conclusion: Both 3D US and 3D SHG are valuable in the diagnosis of uterine anomalies by visualizing the coronal plane of the endometrial cavity and uterine contour. More uterine anomalies are found using 3D SHG. Further investigations, including correlation with other modalities such as hysteroscopy, is warranted.

Title: A Five Year Audit on Diagnoses and Outcomes in an Early Pregnancy Complications Clinic : 2005-2009

Elinor Lu-Olaco, Thomas F. Baskett

Background: Early Pregnancy Complications occur in 15 %-20% of all clinically recognized pregnancies. These gynecological problems often bring women to emergency departments to seek consult and management where increased waiting times add to the burden of emotional sadness and sense of loss. For hemodynamically stable patients, facilities for immediate investigation may not be readily available and procedure scheduling may be uncertain. The fast paced emergency department may not be an ideal arena for counseling and patient may be lost to follow up. Early pregnancy assessment clinics have been shown to manage early pregnancy complications efficiently. In the United Kingdom, almost all hospitals have such clinics but this model is not widely adapted in Canada.

In 2005, the EPCC at the IWK has been established as a referral service to proficiently manage stable patients with diagnosed pregnancy complications early in gestation. The clinic provides a venue to counsel patients on different management alternatives as well as provide or arrange for treatment and patient care follow up. In the first year since its inception, a prospective cohort study showed this structured hospital based approach optimized patient management and follow up and when presented a choice, women favored surgical management. Missed and incomplete abortions were most common diagnoses seen in the clinic. Expectant , medical management with Misoprostol and surgical management with dilatation and curettage are options offered to patients. The study followed patients on the short term and did not provide outcomes for each treatment alternative.

Objectives: To appraise the diagnoses seen at the IWK EPCC in a five year period and the treatments chosen by patients to reflect trends in women's options over the years as well as to evaluate the outcomes of therapy alternatives provided for patients with missed and incomplete abortions.

Methods: This will be a retrospective study of patients seen at the Early Pregnancy Complications Clinic at the IWK from January 2005-December 2009 as recorded in the EPCC logbook. Data on the different diagnoses and the treatments opted will be itemized and tabulated .Statistical analyses will be applied to look at proportions of different diagnoses and trends in options. Moreover, twenty- five cases for each treatment option of expectant, medical and surgical management for patients with missed and incomplete abortions will be randomly selected. A total of one hundred fifty charts of the randomly selected patients with missed and incomplete abortions will be reviewed to gather data on parity and age, confirm diagnosis and verify outcomes of therapy received. Likelihood of success for each treatment options will be evaluated.

Title: Folic acid as a determinant for preterm birth, low birth weight and small-for-gestational-age: a systematic review and meta-analysis.

Waddington Ashley; Allen Victoria

Objectives: To estimate the effect of folic acid supplementation, but not dietary intake, on rates of preterm birth (PTB), low birth weight (LBW), and small-for-gestational-age (SGA).

Study Method: A systematic review was performed using PubMed and Science Citation Index for all years in the English language literature. Key words included folate, folic acid, gestation, preterm, birth weight and small for gestational age. Abstracts were first reviewed and then relevant papers were examined by the two authors. Pertinent references from bibliographies were also considered. PTB was defined as gestational age < 37 weeks, LBW < 2500 g, and SGA < 10th percentile birth weight for gestational age. The meta-analysis evaluated univariate and multivariate comparisons using RevMan 5 and accounted for heterogeneity among studies. Results were reported as summary odds ratios (OR) and 95% confidence intervals (CI).

Results: Of 96 studies obtained by the literature review, there were 16 identified randomized control trials and cohort studies. Further evaluation determined that six studies were appropriate for inclusion in the meta-analysis. Although meta-analysis considering univariate data for PTB showed a lower risk with folic acid supplementation compared to no folic acid (OR 0.76, 95% CI 0.58-0.99), multivariate analysis demonstrated no difference (OR 0.83, 95% CI). Mean differences in birth weight (176.33, 95% CI 33.61-319.05) favoured folic acid supplementation. No differences were observed for risks of LBW (OR 0.99, 95% CI 0.72-1.37), SGA (OR 0.89, 95% CI 0.68-1.17).

Conclusions: The reduction in rates of preterm birth < 37 weeks observed with folic acid supplementation with univariate analysis are accounted for by maternal and fetal characteristics using adjusted regression, while the effect on birth weight is less clear.

Title: Elective repeat caesarean delivery: fetal lung maturity testing and neonatal respiratory morbidity

Coolen AL, Dodds L, Allen VM, Baskett TF, O'Connell CM

Objective: To determine the rate of neonatal respiratory morbidity in women who had an amniocentesis that was positive for fetal lung maturity prior to elective repeat caesarean compared with those who did not.

Study Methods: A population-based cohort study using the Nova Scotia Atlee Perinatal Database of women who had one elective repeat caesarean delivery after a 37 week singleton pregnancy without labour or ruptured membranes between 1988 and 2008. Demographic variables and neonatal respiratory morbidity (including mild, moderate and severe respiratory distress syndrome (RDS) and transient tachypnea of the newborn (TTN)) were analyzed according to whether or not amniocentesis for fetal lung maturity was performed. The data were analyzed using logistic regression and, because of small numbers, exact methods. Chi squares, relative risks and 95% confidence intervals were calculated overall and, by week of gestation, adjusted for confounding factors.

Results: Of 6956 women who met the inclusion criteria, 77 (1.1%) women had amniocentesis for fetal lung maturity. There were 356 (5.2%) neonates among women who did not have amniocentesis and 8 (10.4%) neonates among the amniocentesis group who had any form of respiratory morbidity (RR=2.0, 95% CI- 1.0-3.9). When respiratory outcomes were isolated to the more severe categories there were no cases among the amniocentesis group and no statistical differences found between groups. A chart review of the women who underwent amniocentesis for fetal lung maturity will be conducted to determine whether or not there are differences in neonatal respiratory morbidity with positive versus negative fetal lung maturity results.

Conclusion: Amniocentesis for fetal lung maturity, in a select group of women, is associated with mild but not severe neonatal respiratory morbidity.