



FACULTY OF MEDICINE

DISCIPLINE OF OBSTETRICS & GYNECOLOGY

**31ST ANNUAL
RESIDENT
RESEARCH
DAY**

PROGRAM OF ABSTRACTS

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Discipline of Obstetrics & Gynecology
31ST ANNUAL RESIDENT RESEARCH DAY
Program of Abstracts

ORAL PRESENTATIONS

- 8:30 Introduction and Welcome
- 8:45 Canadian Management of Serous Tubal Intraepithelial Carcinoma (Can-STIC)
Dr. Ada Hsieh
- 9:00 Implementation of Enhanced Recovery After Surgery (ERAS) Protocol for Gynecologic Surgery – Single Centre Study
Dr. Tracey Roche
- 9:15 Rates of Early Screening for Gestational Diabetes Mellitus in the Obese Population in Newfoundland
Dr. Christine Anstey
- 9:30 The Maternal and Perinatal Outcomes of Methadone Use in Pregnancy: A Single-Center Retrospective Cohort Study from 2005-2018
Dr. Adam Comerford
- 9:45 Does Feedback Improve Laparoscopic Skills for Junior Surgical Residents Using at Home Box Trainers during COVID-19?
Dr. Chelsea Harris
- 10:00 Does Training with the Nintendo Wii™ Improve Laparoscopic Skill in Medical Students: A Randomized Control Trial?
Dr. Stephanie Gill

10:15 NUTRITION BREAK

- 10:30 Impact of Menopausal Symptoms on Quality of Life and Patients' Knowledge regarding Hormone Replacement Therapy
Dr. Annie Gu
- 10:45 Objective Structured Assessment of Normal Vaginal Delivery Skill (OSADS)
Dr. Annie Gu
- 11:00 Impact of COVID-19 Related Restrictions on Pregnant Women in St. John's, NL
Dr. Karen Wong and Dr. Stephanie Gill
- 11:15 MUNQI: A Quality Improvement Curriculum for the Obstetrics and Gynecology Residency Program at Memorial University
Dr. Kammie Chow

11:30 Severe Postpartum Femoral Neuropathy: A Case Series
Dr. Kammie Chow

11:45 Vulvodynia Viewed from a Disease Prevention Framework: Insights from Patient Perspectives
Dr. Michelle Miller

12:05 Award Presentations
Dr. Atam Gill

12:15 LUNCH

12:30 GUEST SPEAKER: DR. BRENDA WILSON
Be Curious – Pursue Research Questions that Inspire You

ORAL PRESENTATIONS

1:35 Deferred Cord Clamping in Extreme Preterm Infants: A Quality Improvement Initiative
Dr. Alison McIntyre

1:55 Vulvodynia: Addressing Patient-Identified Gaps in Primary Care Provider Knowledge of a Condition with Significant Impact on Quality of Life
Dr. Alison McIntyre

2:15 Incidence, Intrapartum Risk Factors and Prognosis of Neonatal Hypoxic-Ischemic Encephalopathy Among Infants Born 35 Weeks' Gestation or More
Dr. Lavanya Ravichandran

2:35 Risk of Stillbirth Following in Vitro Fertilization (IVF) or Intracytoplasmic Sperm Injection (ICSI) in Singleton Gestations
Dr. Karen Wong/Dr. Kaitlyn Carson

3:00 CLOSING REMARKS

ORAL PRESENTATIONS

CANADIAN MANAGEMENT OF SEROUS TUBAL INTRAEPITHELIAL CARCINOMA (CAN-STIC)

Hsieh A, Power P

Memorial University of Newfoundland

Objective: To determine the management and epidemiological characteristics of Serous Tubal Intraepithelial Carcinoma (STIC) in the Canadian setting.

Methods: This is a multi-centre national initiative involving a retrospective chart review. Anticipated national cases for review will be approximately 100. Chart review will include collection of clinical data to determine the incidence and type of adjuvant treatment in addition to the rate of recurrence in women with STIC. Epidemiological data will also be collected for national database. Pathology results and data will be collected to undergo a central pathology review at Mount Sinai Hospital Pathology department. Each centre's data will then be centralized to compile into a national database in order to further determine the management within Canada for STIC.

Results: Pending

Conclusion: Pending

IMPLEMENTATION OF ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOL FOR GYNECOLOGIC SURGERY – SINGLE CENTER STUDY

Roche T, O'Brien D, Neveu J
Memorial University of Newfoundland

Objective: To determine if implementation of ERAS protocol improves patient outcomes post gynecologic surgery

Methods: Data collection pre and post-ERAS implementation will take place over a defined time period (length of which will be determined by sample size calculation). This study will look at the average length of stay post-operatively (primary outcome), and the incidence of post-operative ileus and VTE (secondary outcomes), for patients admitted to 5NB at the Health Sciences Centre after undergoing gynecologic surgery. Post-operative admission order sets will be created based on ERAS guidelines, and all gynecology residents/staff and 5NB gynecology nurses will receive education with respect to ERAS protocol implementation. Statistical analysis of collected data will determine whether patient outcomes are improved post ERAS protocol implementation.

Results: Pending

Conclusion: Pending

RATES OF EARLY SCREENING FOR GESTATIONAL DIABETES MELLITUS IN THE OBESE POPULATION IN NEWFOUNDLAND

Anstey C, Crane J

Memorial University of Newfoundland

Objective: To evaluate how well practitioners in Newfoundland participate in early screening for gestational diabetes in the at-risk population, specifically in those with a BMI greater than or equal to 30 as recommended by the Canadian Diabetes Association and the Society of Obstetricians and Gynecologists of Canada. Route of early screening (HbA1C, 50 g glucose challenge test, or 75 g OGTT) will also be assessed.

Methods: The Perinatal Program will be used to identify a list of women with BMI greater than or equal to 30 who delivered a singleton after October 2018. Meditech files of such women will be reviewed to determine whether early screening for GDM took place as per recommendations and guidelines. The method of early screening (HbA1C, 50 g glucose challenge test, or 75 g OGTT) will be assessed though Meditech review as well. Collected results will provide insight regarding how well practitioners screen for GDM in the at-risk, obese population. This information could be used to determine whether interventions are needed to attempt to increase early screening rates in Newfoundland.

Results: Pending

Conclusion: Pending

THE MATERNAL AND PERINATAL OUTCOMES OF METHADONE USE IN PREGNANCY: A SINGLE-CENTER RETROSPECTIVE COHORT STUDY FROM 2005-2018

Comerford A, Ryan R, Murphy P, O'Brien D, Crane J.
Memorial University of Newfoundland

Objective: To compare the maternal and neonatal outcomes and rates of complications between live, singleton pregnancies of patients using methadone with those who do not at our center.

Methods: A retrospective cohort study of females with live, singleton pregnancies who delivered at the Health Sciences Center between April 2005 and December 2018 will be performed. Data will be provided by the Newfoundland & Labrador Provincial Perinatal Program. The primary outcome will be to compare the rate of congenital anomalies among neonates of patients using methadone with those who do not. Further analyses will be performed to compare a number of maternal and neonatal demographics, outcomes, and complications

Results: Pending

Conclusion: Pending

DOES FEEDBACK IMPROVE LAPAROSCOPIC SKILLS FOR JUNIOR SURGICAL RESIDENTS USING AT HOME BOX TRAINERS DURING COVID-19?

Harris C, Kennedy R, Smith C, Thorburn C
Memorial University of Newfoundland

Background: The educational value of simulation training is well defined in the literature. Access to high fidelity training equipment for medical residents is difficult secondary to cost, time, and geographical constraints. Portable simulators provide low cost, easily accessible alternatives for junior trainees to practice outside of the traditional hospital setting. Despite our understanding that simulation-based training improves surgical skills in junior learners, the use of Laparoscopic box trainers is limited in residency training. Access to laparoscopic training is increasing difficult during the COVID-19 global pandemic. During this difficult time, it is key for learners to have access to training tools that allow them to maintain their skill proficiency and advance through their residency training. Self-directed learning and at home practice have been shown to have a positive impact on advancing hand-eye coordination, speed and confidence with basic tasks, however many low cost, at home training systems lack validity. Without supervision, trainees can adopt bad practices or skills that are not transferable to operating room. Our novel idea is to use real time or written directed feedback via video capture to determine if feedback can overcome training gaps for at home box trainers.

Objective: To determine if real time vs written feedback is more effective at improving laparoscopic skills for junior residents when using low cost, at home laparoscopic training boxes during a global pandemic.

Methods: Medical residents enrolled in either the general surgery or obstetrics and gynecology program at memorial university who are in their first (PGY1) or second (PGY2) year of training will be recruited and randomized to either the control or intervention groups. Each resident will be provided with a low-cost laparoscopic training box.

Primary outcome measures will be (1) confidence in basic laparoscopic skills, (2) speed, (3) improvement in skills as per a validated assessment tool. All measures will be collected at the initial visit and after the intervention (1-month) and change scores will be analyzed and compared between groups.

Results: This study has not received ethical approval from the HREB. There are no results to report at this time.

Conclusion: Pending

DOES TRAINING WITH THE NINTENDO WII™ IMPROVE LAPAROSCOPIC SKILL IN MEDICAL STUDENTS: A RANDOMIZED CONTROL TRIAL?

Gill S¹, Martin L², O'Brien D¹, Bajzak K¹

¹Memorial University of Newfoundland

²Faculty of Psychiatry, McMaster University

Objective: The aim of this study is to determine if practicing on a Nintendo Wii™ will improve laparoscopic skill as measured by the LapSim® surgical simulator. We believe that laparoscopically naïve pre-clinical medical students using the modified Nintendo Wii™ “Wii Mote” will perform better on the surgical simulator.

Methods: Pre-clinical medical students with no prior laparoscopic training from Memorial University of Newfoundland will be recruited. Participants will be allocated to an experimental group or control group. Randomization will be computer generated in a 1:1 ratio. There will be completion of a pre and post study questionnaire to obtain demographic information, prior video gaming, simulator and surgical experience. The Mental Rotation Test (MRT-A) will be completed in the pre-study phase, giving us an objective measure of participants visual spatial ability. Both groups will perform the instrument navigation pre-test on the LapSim® surgical simulator. The experimental group will complete six thirty-minute training sessions on the Nintendo Wii™ playing the video game Marble Mania (15 minutes per hand). The control group will continue to engage in their normal gaming habits. Following the training period both groups will complete the same LapSim® instrument navigation exercise. We will collect multiple data points including left and right instrument time, misses, path length, angular path and tissue damage. The primary outcome of this study is a competency score. The difference between pre and post test scores on the LapSim® will be compared using Fisher’s exact.

Results: Pending

Conclusion: Pending

IMPACT OF MENOPAUSAL SYMPTOMS ON QUALITY OF LIFE AND PATIENTS' KNOWLEDGE REGARDING HORMONE REPLACEMENT THERAPY

Gu A, Holden C

Memorial University of Newfoundland

Objective: To assess the quality of life of women experiencing perimenopausal/menopausal symptoms, as well as patients' knowledge regarding treatment options, mainly hormone replacement therapy.

Methods: The target age group is female between the ages of 45-65. This is a cross-sectional study that is being conducted using a validated questionnaire (MenQOL) to assess the quality of life of women going through perimenopause/menopause, and at the same time, assess their knowledge of the safety and efficacy of hormone replacement therapy using a separate knowledge questionnaire. Demographic information is being collected from the questionnaire as well. Participants are being recruited from the Women's Health Clinic at the Health Sciences Center, and also from the clinics of a few participating Gynecologists located in St. John's, NL.

Hypothesis: Perimenopausal/menopausal symptoms have a negative impact on quality of life, but there is a lack of knowledge with regards to the safety and efficacy of treatment options available, which would act as a barrier to women getting the optimal care and an improvement to their quality of life. If such is true, there would be a need for intervention to improve educational awareness among patients of treatment options for their perimenopausal/menopausal symptoms.

Results: Pending

Conclusion: Pending

OBJECTIVE STRUCTURED ASSESSMENT OF NORMAL VAGINAL DELIVERY SKILL (OSADS)

Gu A¹, Yang C², Murphy S¹, Bajzak K¹

¹Memorial University of Newfoundland

²University of Alberta

Objective: To demonstrate construct validity of an objective assessment tool (OSADS) developed to evaluate the skill demonstrated in the performance of a normal vaginal delivery.

Methods: A structured objective assessment tool has been developed by our center to assess trainees' performance in completing a normal vaginal delivery. The assessment tool consists of seven steps of a vaginal delivery and trainees are scored on a 5-point Likert scale for each step. We hope to demonstrate construct validity of this tool, by showing that "experts" score higher than "novices". Novices are categorized as medical students, PGY1, and PGY2s in the first half of their academic year. Experts are categorized as PGY3 and above. After the appropriate patient has been selected and consented in the caseroom, the physician observer (staff or senior resident involved in the study) would observe the trainee perform the vaginal delivery. Trainee level, evaluator and OSADS task-specific scores and total scores were recorded. For each step, trainees will be classified as "proficient" if they score 3 or greater. The evaluators were trained by watching and scoring publicly available videos of vaginal deliveries. This information will be used to rate inter- and intra-rater variability. A pilot study with 20 deliveries had been done in the past to calculate the sample size necessary to demonstrate construct validity, using the kappa statistic. Each patient with a vaginal delivery is considered one observation and a total of 173 observations are required. We have contacted additional Canadian training sites to collaborate on the project in order to meet the sample size requirement. They will follow the same protocol with approval of their local ethics boards.

Results: Content and face validity were demonstrated for this OSADS tool based on the opinion of local obstetricians. We are in the process of collecting data to demonstrate construct validity. This study has been approved to take place and data has been collected from the labour & delivery unit at the Health Sciences Center in St John's, NL, Western Memorial Regional Hospital in Corner Brook, NL, and the Moncton Hospital in Moncton, NB. We also plan to conduct this study at the University of Alberta's Labour and Delivery as well.

Conclusion: Pending

IMPACT OF COVID-19 RELATED RESTRICTIONS ON PREGNANT WOMEN IN ST. JOHN'S, NL

Gill S, Wong K, Cook C

Memorial University of Newfoundland

Background: The COVID-19 pandemic has changed the way obstetrical care is accessed and delivered. This change is driven by patients, healthcare providers, and healthcare systems. In St. John's, NL, policy changes have been made restricting all visits to the patient herself, including routine antenatal and ultrasound appointments, emergency and case room visits, and the majority of the postpartum stay.

Objective: The objectives of this study are to explore pregnant women's experiences related to the above changes in policy; their opinions of the changes; and the response of their attending obstetricians in managing care during this pandemic.

Method: This will be a mixed-methods study utilizing an explanatory sequential design in two parts. The first part will explore the experiences and opinions of patients using a questionnaire and follow-up semi-structured interviews. The second part will explore how obstetricians have changed their practices in response. Descriptive statistics will be used to summarize patient characteristics and questionnaire data. Interviews will be transcribed, and subsequently coded by two researchers. A grounded-theory approach will be taken to theme development.

Results: Pending

Conclusions: Pending

MUNQI: A QUALITY IMPROVEMENT CURRICULUM FOR THE OBSTETRICS AND GYNECOLOGY RESIDENCY PROGRAM AT MEMORIAL UNIVERSITY

Chow K

Memorial University of Newfoundland

Objective: To develop, implement, and assess the effectiveness of a QI curriculum for the Obstetrics and Gynecology residency program.

Methods: Development and implementation of the QI curriculum: A needs assessment survey will be distributed to all OB/GYN staff and residents to determine specific learning objectives and educational goals of a program-specific QI curriculum. The QI curriculum will consist of three parts: Acquisition, Application, and Action. Acquisition: Two academic half days will be scheduled to teach the concepts of QI in a didactic lecture as well as in small group discussions. A staff with QI expertise will be leading both sessions. Application: Morbidity and Mortality Rounds will be presented and analyzed by the presenting resident in a framework based on QI concepts learned from the didactic lecture/small group session. Action: A QI committee will be introduced to all OB/GYN residents at the end of the second academic half day session. Residents who are interested in furthering QI knowledge and experience are invited to join the committee. Members of the QI committee will work in groups to complete a QI project that will be presented at the end of the year. Regular group meetings throughout the year will be supervised by staff with expertise in QI.

Assessment of the QI curriculum:

Acquisition: MUN OB/GYN Residents will be asked to complete a pre-intervention survey and QIKAT-R test prior to the first academic half day QI session to determine self-confidence and objective knowledge in QI concepts. All residents will then be asked to complete a post-intervention survey and another QIKAT-R test after the second academic half day. The responses from both survey and QIKAT-R will be compared using a paired t-test in order to determine the effectiveness of the didactic lecture and small group sessions in building foundational QI knowledge and self confidence in performing QI initiatives among residents.

Action: Final QI projects will be presented and evaluated by all attending staff and residents. After the presentations, all OB/GYN residents will be asked to complete a post-QI curriculum survey and QIKAT-R test. Responses of members and non-members of the QI committee will be compared using a paired t-test in order to determine the effectiveness of a longitudinal QI project in improving QI knowledge and self confidence in performing QI initiatives among residents.

Results: Pending

Conclusion: Pending

SEVERE POSTPARTUM FEMORAL NEUROPATHY: A CASE SERIES

Chow K, Wong K, Gill A

Memorial University of Newfoundland

Introduction: Femoral neuropathy (FN) is a rare complication of vaginal deliveries that is often underreported. It is marked by weakness in hip flexion, knee extension, absent patellar reflexes, and decreased sensation to the anteromedial thigh, medial leg and foot. This report presents three cases to outline possible prevention strategies and the course of diagnosis, management and recovery process for this injury. The aim is to provide the obstetric community with information to properly counsel and manage patients affected by this complication.

Cases: All three patients were nulliparous with a mean age of 32 years and mean pre-pregnancy BMI of 24. All patients underwent induction of labour and received an epidural, as well as oxytocin augmentation. Active second stage duration ranged from 1 hour 10 minutes to 3 hours 17 minutes. All patients described pushing with the hips in hyperflexed fashion with no return to neutral position. Postpartum, the patients were unable to weight bear and were seen by the Neurology service who clinically diagnosed bilateral femoral neuropathy. Nerve conduction studies (NCS) as well as electromyography (EMG) were completed 10 days to 4 weeks postpartum which confirmed the diagnosis and the severity of nerve injury. All patients received physiotherapy follow up as well as mobility aids and home arrangements by occupational therapy. They described the significant impact of this complication on their psychological well-being; however, no patients were referred to psychotherapy services. Recovery time ranged from 2 months to 18 months for sensory loss and 2 months to 12 months for motor loss.

Comment: Postpartum femoral neuropathy is a rare complication that is often underdiagnosed and underreported but can have significant impact on maternal morbidity and psychological well-being. Nerve injury is likely a result of compression or traction during hyperflexion in the second stage of labour. Diagnosis is made clinically and confirmed with NCS/EMG no sooner than 2 weeks post-injury. Prognosis is often excellent with prompt management which requires a multidisciplinary approach involving Neurology, psychology, physiotherapy and occupational therapy services. Possible prevention strategies include adding frequent checks of positioning throughout the labour process, returning hips to neutral position between pushing, and readjustments to other positions if possible such as left or right lateral decubitus and hands and knees during active second stage of labour.

VULVODYNIA VIEWED FROM A DISEASE PREVENTION FRAMEWORK: INSIGHTS FROM PATIENT PERSPECTIVES

Miller M, Webber V, Gustafson D, Bajzak K
Memorial University of Newfoundland

Objective: Vulvodynia is a complex pain condition with profound impacts on patient quality of life, sexual functioning and mental health. Persons with vulvodynia experience significant barriers to treatment and diagnosis, several of which may be exacerbated by the cultural and geographical context in which they live. We sought to identify healthcare challenges and patient-identified solutions for improving access to care for those living with vulvodynia in Newfoundland and Labrador (NL).

Methods: Patients with vulvodynia from the practice of the only pelvic pain specialist in NL (KB) were invited to participate in semi-structured group interviews. Patient dialogue was coded thematically and temporally to illustrate struggles and victories in diagnosis and treatment.

Results: Three focus groups of three to four persons were conducted. Participants confirmed that healthcare provider knowledge and attitudes as well as system challenges (specialist and allied healthcare provider availability) were major barriers to timely diagnosis. Of novel interest are factors that precede symptom onset such as inadequate sexual education and cultural messages about “normal” sexual activity that make it difficult for patients to label their symptoms.

Conclusion: While healthcare provider knowledge and attitudes are often at the forefront of barriers to diagnosis, our study suggests that preventative strategies such as knowledge-based, balanced sexual education prior to or at the onset of sexual activity may be of benefit in reducing the burden of vulvodynia, in addition to strategies to increase healthcare provider knowledge and improve access to effective treatments.

GUEST SPEAKER

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BE CURIOUS PURSUE RESEARCH QUESTIONS THAT INSPIRE YOU

DR. BRENDA WILSON
Community Health and Humanities
MBChB MSc MRCP(UK) FFPH
Professor & Associate Dean
Community Health and Humanities

Brenda Wilson trained as a physician in the U.K. with residencies in Internal Medicine and Public Health. She held faculty positions in Aberdeen and Ottawa before joining Memorial University in 2018. She is responsible for providing academic leadership in education

and research related to population and applied health research and professional public health practice and supporting the institution's social accountability mandate. Dr. Wilson's primary research interests are the population and health system implications of emerging genomic technologies, with the goal of generating credible evidence to inform real-world policy and practice, and support personal decision making by patients and consumers. She has participated in many Canadian federal and provincial bodies concerned with policy aspects of genetics specifically, public health and disease prevention more generally, and health ethics and the responsible conduct of research. She is a voting member of the Canadian Task Force on Preventive Health Care.

ORAL PRESENTATIONS

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DEFERRED CORD CLAMPING IN EXTREME PRETERM INFANTS: A QUALITY IMPROVEMENT INITIATIVE

McIntyre A, Crane J, Emberley J, Toope D, O'Brien D
Memorial University of Newfoundland

Objective: To improve the practice of deferred cord clamping (DCC) in preterm infants (<29 weeks' gestation)

Methods: A recent review of local data indicated high rates of DCC in preterm infants but when compared to the Canadian Neonatal Network data, local DCC rates were significantly lower, presumably due to stringent DCC policy exclusion criteria. A multidisciplinary DCC team was established to review and update the DCC policy. The exclusion criteria were analyzed and refined based on current evidence and national practices (as per the Perinatal Leadership Committee). The policy was updated to address team preparation for DCC and the determination of the most responsible person for duration of deferral, as well as necessary documentation. The new DCC policy was implemented on April 1, 2019. Initial data was obtained for the Perinatal Database between January 1, 2018-Dec. 31, 2018. This included gestational age, indication for delivery, mode of delivery, DCC duration (if completed), indications against DCC (if not completed), and the resuscitation team member responsible for DCC. It was compared with the 2019 criteria to determine whether DCC could have been completed. The data after the change in policy was analysed at three month intervals to examine the potential change in rates of DCC after implementation of the updated protocol.

Results: Pending

Conclusion: Pending

VULVODYNIA: ADDRESSING PATIENT-IDENTIFIED GAPS IN PRIMARY CARE PROVIDER KNOWLEDGE OF A CONDITION WITH SIGNIFICANT IMPACT ON QUALITY OF LIFE

McIntyre A¹, Duggan N¹, O'Brien D¹, Badaiki W¹, Logan G², Miller M¹, Webber V¹, Bajzak K¹, Gustafson D¹
¹Memorial University of Newfoundland, ²University of Manitoba

Objective: To identify and investigate primary care providers' (PCPs') understanding of vulvodynia and the ideal method to receive information on patient-identified gaps in knowledge. The outcomes are intended to inform the development of a "tool-kit" that will include information about vulvodynia diagnosis and assessment, as well as treatment modalities and access in Newfoundland.

Methods: This is a qualitative study that uses a needs assessment approach, including focus groups and individual interviews. This study evolved from a previous qualitative study examining the views and concerns of patients diagnosed with vulvodynia in which a gap in PCP knowledge was identified. PCPs (family physicians and nurse practitioners) were recruited at a local conference (2018 Family Medicine Conference), through the NLMA newsletter and through community contacts (nurse practitioners). Snow-ball sampling was also employed, where one participant would identify other potential participants and provided them with study details and contact information. All efforts were made to ensure a diversity of participants from urban and rural practice areas, as well junior and senior staff, and academic and community practitioners. An ideal sample size was determined to be twenty-25 subjects based on the standard for qualitative research in phenomenological topics, but maximum variation sampling was also considered to ensure diverse PCP representation. An intake survey was used to gather demographic information and pre-assessment vulvodynia knowledge and perspective. Semi-structured interviews in group or individual sessions, in-person or on the telephone were utilized to gain as much information as possible. The interview approach included a conversational format with structured open-ended prompt questions to guide discussion. Transcription was completed and the interviewees were given the opportunity to review the interview transcripts. Each interview transcript was reviewed independently by two study members and coded for themes. Study members involved in coding met to review themes and subthemes, which were then refined over multiple meetings.

Results: Two major themes and multiple subthemes were identified. A lack of PCP understanding of the issue was one major theme with subthemes including lack of knowledge and formal training, as well as difficulty asking specific questions and engaging in the topic. The other major theme was a barrier in having a conversation about vulvodynia with patients with subthemes including a discomfort with the topic (both provider and patient) and lack of clarity as to who should initiate the conversation.

Conclusion: The above themes/subthemes will help inform the development of a PCP toolkit of resources.

INCIDENCE, INTRAPARTUM RISK FACTORS AND PROGNOSIS OF NEONATAL HYPOXIC-ISCHEMIC ENCEPHALOPATHY AMONG INFANTS BORN 35 WEEKS' GESTATION OR MORE

Ravichandran L, Allen VM, Allen AC, Vincer M, Baskett TF, Woolcott CG
Dalhousie University

Objective: Neonatal hypoxic-ischemic encephalopathy (HIE) is associated with neonatal mortality, acute neurological injury and long-term neurodevelopmental disabilities; however, the association between intrapartum factors and HIE remains unclear.

Methods: This population-based cohort study employed linked obstetrical and newborn data derived from the Nova Scotia Atlee Perinatal Database (NSAPD, 1988-2015) and the AC Allen Perinatal Follow-Up Program Database (2006-2015) for all pregnancies with live, non-anomalous newborns \geq 35 weeks' gestation, born without pre-labour caesarean section. HIE was defined using standard definitions. Temporal trends in HIE incidence were described; logistic regression was used to estimate odds ratios (OR) with 95% confidence intervals (CI) for the association of intrapartum factors with HIE.

Results: The NSAPD identified 227 HIE cases in the population of 226,711 deliveries from 1988 to 2015, with a decrease in incidence from 0.13% to 0.11 % through those years ($P=0.009$). Women with clinical chorioamnionitis in labour (OR 8.0, 95% CI 3.9-16), emergency Caesarean delivery (OR 10.0, 95% CI 7.6-14), shoulder dystocia (OR 3.5, 95% CI 2.1-5.7), placental abruption (OR 18.0, 95% CI 11-29), and cord prolapse (OR 30.0, 95% CI 15-61) were more likely to have newborns with HIE. Two-thirds of newborns with HIE had an abnormal intrapartum fetal heart rate tracing. The mortality rate among infants with HIE was 27% by three years of age; neurodevelopmental outcomes in the surviving infants were normal in 43% and showed severe developmental delay in 40%, with the remaining 17% having mild to moderate delay.

Conclusion: Overall, the rate of HIE was low in infants born at \geq 35 weeks' gestation. The identification of associated intrapartum factors should promote increased surveillance and careful management to optimize newborn outcomes.

RISK OF STILLBIRTH FOLLOWING IN VITRO FERTILIZATION OR INTRACYTOPLASMIC SPERM INJECTION IN SINGLETON GESTATIONS

Wong K, Carson K, Crane J
Memorial University of Newfoundland

Background: Although the cause of stillbirth often remains unknown, it has been speculated that in vitro fertilization (IVF) and/or intracytoplasmic sperm injection (ICSI) may be associated with an increased risk, independent of the risk associated with multiple gestation. There has been mixed evidence regarding this risk, and whether it is restricted to specific gestational ages or methods.

Objective: The objective of this review is to assess whether use of IVF/ICSI is associated with an increased risk of stillbirth compared with spontaneous conception or other assisted reproduction in singleton gestations.

Methods: Two authors independently searched Medline, Embase, and CINAHL databases, the Cochrane Library, and reviewed reference lists of retrieved articles to identify eligible studies. Eligible studies included observational studies comparing IVF and/or ICSI with spontaneous conception or other assisted reproduction (i.e. intrauterine insemination or ovulation induction alone), reporting stillbirth as an outcome for singleton gestations. Meta-analysis was undertaken using inverse variance methods and a random effects model. Subgroup analysis were done for studies that controlled for maternal age, as well as by gestational age and method (IVF vs. ICSI).

Results: The initial literature search after removal of duplicates yielded 1574 titles and abstracts, with 206 of these retrieved for full text review. Backward citation tracking identified an additional 79 references for review. Thirty-three articles met inclusion criteria and were included in narrative synthesis. After excluding duplicate data points, 18 studies contributed to meta-analysis. Statistical heterogeneity was low, $I^2 = 31\%$. The pooled odds ratio for stillbirth following IVF/ICSI compared with all non-in vitro methods was 1.43 (1.22, 1.67). Meta-analysis of studies that control for age ($n=12$) resulted in a pooled OR 1.45 (1.19, 1.76). The quality of evidence was low.

Conclusion: IVF/ICSI is associated with a small increased risk of stillbirth in singleton gestations compared with non-in vitro methods such as spontaneous conception, ovulation induction, and intrauterine insemination. Maternal age is a significant confounder; however the risk remains after excluding studies that do not control for age. Pregnancies with an increased risk of stillbirth are usually monitored more closely in the antenatal period. Evidence of an increased risk for stillbirth after IVF/ICSI may lead to a recommendation for closer antenatal surveillance of these pregnancies.

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31st Annual Resident Research Day

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