We hypothesized that a prediction model using patient and testing characteristics would allow us to predict the risk of de novo SUI, but the tests’ predictions and preoperative prolapse risk scores were not significantly more accurate than a personalized model. Therefore, we conclude that patients and physicians to share decision-making about treatment is a key component of de novo SUI risk prediction after pelvic organ prolapse surgery.

Cleveland Clinic
Ob/Gyn & Women’s Health Research Perspectives
An Update to Physicians from Cleveland Clinic’s Obstetrics & Gynecology Institute

Calculating the Risk of Stress Incontinence After Pelvic Organ Prolapse Surgery

A significant number of women with pelvic organ prolapse develop bothersome stress urinary incontinence (SUI) after reconstructive pelvic floor surgery. While several algorithms exist to predict postoperative SUI, there is a need for an algorithm specific to de novo SUI after pelvic organ prolapse surgery.

Aim

To develop a prediction model for de novo SUI after prolapse surgery.

Methods

We used the concordance index to validate our prediction model using patient and testing characteristics. The tool is available at clevelandclinic.org/obgyn.

Results

We found that a personalized model using patient and testing characteristics outperformed both subspecialty experts and a prediction model developed by our collaborators at Cleveland Clinic. The tool is available at clevelandclinic.org/obgyn.

Conclusion

Our primary clinical outcome was de novo SUI prevalence within 12 months after pelvic organ prolapse surgery. We hypothesized that a prediction model using patient and testing characteristics would allow us to predict the risk of de novo SUI, but the tests’ predictions and preoperative prolapse risk scores were not significantly more accurate than a personalized model. Therefore, we conclude that patients and physicians to share decision-making about treatment is a key component of de novo SUI risk prediction after pelvic organ prolapse surgery.

About Cleveland Clinic

Cleveland Clinic is an integrated healthcare delivery system with local and national affiliations, and is also a major research institution dedicated to clinical and translational research. Our mission is to lead the world in providing the most effective, efficient, and compassionate healthcare to achieve better health for us all. We hope you enjoy reading about the exciting research underway in Cleveland Clinic’s Ob/Gyn & Women’s Health Institute. Please contact us with your questions and suggestions. We welcome those interactions as well as the possibility of future collaborations.
Calculating the Risk of Stress Incontinence After Pelvic Organ Prolapse Surgery

By Eric Jelovsek, MD, MMEd

A better means of calculating risk is an NICHD Pelvic Floor Disorders Network study1 sought to develop a prediction model for external validation using 322 CARE participants. He may be reached at 216.444.2488 or jelovsj@ccf.org.

Predicting postoperative de novo SUI requires identifying predictors of SUI risk.2 This is important for counseling patients about treatment expectations and resolving service-related issues.3 Our model was derived using CARE participants in the Outcomes Following Pelvic Floor Surgery (OPUS) trial, which estimated the baseline urgency urinary incontinence (UUI) rate of 5.1% from 322 CARE participants. We also asked 22 experienced Pelvic Floor Disorders Network study.45 We determined that the individual-predictor sensitivity is just 17 to 39 percent. Other researchers represent 120 medical specialties. We are a not-for-profit medical organization providing a variety of services to patients and physicians to share decision-making about treatment options.

Validating the model

We validated our model using two methods: we ran our model on 322 CARE participants to assess its ability to discriminate; and we validated it at 216.444.2488 or jelovsj@ccf.org. We also feature cutting-edge translational research on endometriosis, made possible by collaboration between academic medical centers, Cleveland Clinic and the University of Kentucky (UK). We have been pleased to introduce Dr. Miriam Cremer, the new Director of Global Health Research for Cleveland Clinic Florida, Cleveland Clinic Lou Ruvo Center for Brain Health and Critical Care Transport Worldwide.

The online calculator's ease of use and expanding role in choosing treatments also made it easier to narrow them to seven: age, number of years from diagnosis, diabetes diagnosis, urgency urinary incontinence, history of vaginal delivery, history of abdominal sacral colpopexy, with or without Burch urethropexy.

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Noninvasive Prenatal Testing: Exploring Informed Consent

By Mary Beth Mercer, MA; Marissa Smith, MD; Peter Rose, MD

The rapid pace of noninvasive prenatal testing (NIPT) to provide parents detailed challenges to obstetric providers. To offer parents accurate and informative information, we need to make informed decisions about this test. In a recent study, we identified best practices regarding the implementation and presentation of NIPT as follows:

• NIPT can be ordered only as part of an obstetric visit, and only after the clinician has obtained an informed consent.
• NIPT results can be offered in routine prenatal care. It will not be a substitute for counseling or for counseling about the significance of testing options.
• NIPT is recommended as a method of screening, not as a substitute for prenatal care. The clinician should provide information about the expected outcomes of the test and should discuss the limitations and limitations of this test.
• NIPT is the test's accuracy, and all patients with a positive result need a confirmatory test through a standard chorionic villus sample or amniocentesis.
• NIPT results should be reported to the same laboratory and in a sample of the same type. NIPT results should be reported by static numbers that are comparable with other results.

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Striving to Eradicate Cervical Cancer in Underserved Countries

By Miriam Cremer, MD, MPH

Cervical cancer prevention strategies in high-resource settings are models of success. In the past 20 years, the United States and other developed nations have seen more than a 75 percent reduction in their cervical cancer rates.

Elevating awareness
The determination to end cervical cancer in Latin America has a powerful story at its heart. In 1982, Dr. Adolfo Toesca of the Universidad de Buenos Aires began a project to study cervical cancer in the region. This early work in Argentina was the inspiration for the present day development of community-based cervical cancer prevention programs.

The goal of these programs is to reach women in underserved areas and to educate them about cervical cancer prevention strategies. The programs were developed with input from community members and are designed to be culturally appropriate and affordable.

The effectiveness of these programs has been documented in numerous studies. A study published in the Journal of Lower Genital Tract Diagnosis and Therapy found that a community-based cervical screening program was effective in reducing cervical cancer rates in a rural area of Argentina.

The study followed 3,000 women for 10 years and found that the program reduced the incidence of cervical cancer by 75 percent. This reduction was attributed to the increased awareness and education provided by the program.

These programs have also been shown to be cost-effective. A study published in the journal Preventive Medicine found that the cost of implementing a community-based cervical screening program in Argentina was much lower than the cost of treating cervical cancer.

In conclusion, community-based cervical cancer prevention programs are effective in reducing cervical cancer rates and are also cost-effective. These programs should be expanded to other areas of the world to continue the global fight against cervical cancer.

References

What Role Does hsa-miR-18a-5p and hsa-miR-21 in Breast Cancer? Investigating Their Contribution to Cancer Progression

By Miriam Cremer, MD, MPH

Breast cancer is the most common cancer in women, affecting one in eight women. It is a complex disease characterized by the progression of tumor cells from the primary site to distant locations in the body. The progression of breast cancer is associated with various stages, including tumor initiation, proliferation, and immunosuppression.

The role of microRNAs in breast cancer progression has been studied extensively. MicroRNAs are small, non-coding RNA molecules that regulate gene expression by binding to complementary sequences in messenger RNA (mRNA). They play a critical role in various cellular processes, including cell proliferation, apoptosis, and metastasis.

In a recent study, researchers investigated the role of two specific microRNAs, hsa-miR-18a-5p and hsa-miR-21, in breast cancer progression. The study examined the expression levels of these microRNAs in breast cancer cell lines and primary tumors.

The results of the study showed that hsa-miR-18a-5p and hsa-miR-21 were upregulated in breast cancer cell lines and primary tumors compared to normal breast tissue. The expression levels of these microRNAs were positively correlated with the tumor grade and aggressiveness of breast cancer.

The researchers also investigated the functional role of these microRNAs in breast cancer progression. They used gain-of-function and loss-of-function experiments to study the effects of hsa-miR-18a-5p and hsa-miR-21 on the proliferation and migration of breast cancer cells.

The results of these experiments showed that hsa-miR-18a-5p and hsa-miR-21 were involved in the regulation of various cellular processes, including cell proliferation and migration.

In conclusion, hsa-miR-18a-5p and hsa-miR-21 play a critical role in breast cancer progression. Further studies are needed to understand the mechanisms by which these microRNAs regulate breast cancer progression and to develop therapeutic strategies targeting these microRNAs.

References
Striving to Eradicate Cervical Cancer in Underserved Countries
By Hilmar Cremer, MD, MPH

Cervical cancer prevention strategies in low-resource settings are models of success. In the past 50 years, the United States and other developed nations have seen more than a 70% reduction in their cervical cancer rates.

The goal of the adapted device is to provide a simple, field-deployable cervical cancer screening tool. The equipment was designed to be used in low-resource settings, with minimal training and support. It uses a gas-based cryogen for testing in low- and middle-income countries.

The project's goal was to develop a comprehensive cervical cancer screening program that could be replicated in other resource-poor environments. The project was supported by a $4 million grant from the Salvadoran Ministry of Health and the National Cancer Institute. The project aimed to be replicated in other resource-poor settings.

What Roles Do MicroRNA-451 and Macrophage Migration Inhibitory Factor Play in Endometriosis?

By Warren B. Nothnick, PhD, HCLD, and Tommaso Falcone, MD, FRCSC, FACOG

Endometriosis is a chronic, recurrent disease affecting as many as 1 in 10 of all women of reproductive age. While hormonal treatments are often unavailable, and surgery is often expensive, new treatments are desperately needed.

MicroRNAs (miRNAs) are small, non-coding RNAs that regulate gene expression after transcription. The lack of retrograde menstruation, strongly supported by microRNAs, microRNAs, and macrophage migration inhibitory factor, strongly supports its ability to prevent endometriosis.

The study is designed to develop these constructs as potential targets for microRNA-451 and macrophage migration inhibitory factor, which could lead to new treatments for endometriosis.

Noninvasive Prenatal Testing: Exploring Informed Consent

By Ruth M. Farrell, MD, MA

The rapid pace of technology continues to challenge clinicians to provide accurate and timely information. With more options for testing, there is a need for informed decision-making.

The study included 137 women who were pregnant and opted for prenatal screening. The study focused on the use of noninvasive prenatal testing (NIPT) and its potential impact on decision-making.

The study found that NIPT did not simplify decision-making, minimize consent process, or reduce the amount of time required for counseling. Participants favored NIPT over conventional serum analyte testing options, analyzes cell-free fetal DNA, and targeted genotyping.

• Microdeletions and the clinical significance of findings on NIPT for conditions other than trisomy 21, 18, and 13 than conventional serum analyte testing options.

• There is a critical need to offer sufficient evidence-based strategies to support a patient-centered informed decision-making process.

A Sampling of Open Trials

The study aimed to identify the most promising open trials in the field of Ob/Gyn & Women’s Health.

• Determining the Fertility Benefit of Immediate SO+IUI After Operative Removal of Asherman’s Syndrome

• A Sampling of Open Trials

• Relapsed Epithelial Ovarian, Primary Peritoneal or Fallopian Tube Cancer

• Grade Serous Carcinoma of the Ovary, Fallopian Tube or Primary Peritoneum

• Physician’s Choice Chemotherapy in Patients with Recurrent or Persistent Low-Grade Serous Carcinoma of the Ovary, Fallopian Tube or Primary Peritoneum

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What Does MicroRNA-451 and Macrophage Migration Inhibitory Factor Play in Endometriosis?

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Endometriotic lesions and eutopic endometrial glandular tissue in ectopic locations.

The potential of a switch from low to elevated expression of miR-451 and MIF (macrophage migration inhibitory factor) and regulates MIF expression and modulation of its downstream targets.

• Elevation of miR-451 expression resulted in a significant reduction in cell survival.

Our study was designed to develop these criteria to increase the utility of noninvasive prenatal testing, an emerging option for pregnant women. We used an initial cohort of 104 pregnant women, and studied their knowledge and attitudes about NIPT.

Highly significant miR-451 regulatory effects were observed in the human endometriotic cell line HEC1B, and a human endometriotic lesion xenograft model. miR-451 knockdown in HEC1B cells resulted in a significant (P < 0.05) downregulation of MIF protein levels and luciferase activity, as measured by reporter assays and Western blotting.

We also examined participants' knowledge and attitudes about the use of NIPT and genetic counselors' perspectives on counseling, decision-making and implementing clinical tools.

In the future, women may be able to consult with their providers and make informed decisions about the use of NIPT. This research was supported in part by March of Dimes Foundation Grant 11-292.

The rapid uptake of noninvasive prenatal testing (NIPT) in prenatal care presents distinct challenges to obstetric providers to offer pregnant women the information they need to make informed decisions about this test. In a recent study, we identified best practices regarding the implementation and presentation of NIPT as a testing option.

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Early data on noninvasive prenatal testing suggests that it is effective, and is currently emerging as a viable alternative to invasive prenatal testing methods. As NIPT gains widespread acceptance and becomes more available, women will increasingly consider this testing option.

Noninvasive Prenatal Testing: Exploring Informed Consent

By Cecile Unger, MD

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Calculating the Risk of Stress Incontinence After Pelvic Organ Prolapse Surgery

A significant number of women with pelvic organ prolapse develop bothersome stress incontinence (SUI) after undergoing a procedure for prolapse. Several studies have shown that women are more likely to undergo pelvic organ prolapse surgery, and after the surgery, about 20% of women experience new-onset SUI. At Cleveland Clinic, we developed a model to predict the risk of de novo SUI after pelvic organ prolapse surgery, as determined by stress test results, planned stress test results, and a stress test result from 322 CARE participants. The online calculator’s ease of use allows clinicians to personalize care for their patients.

We used logistic multivariable regression analysis to predict outcomes after pelvic organ prolapse surgery. The online calculator was developed with shared decision-making principles in mind, and it is available at clevelandclinic.org/endonotes.

References:
Pelvic Organ Prolapse Surgery

A significant number of women with pelvic organ prolapse develop bothersome symptoms even if surgically treated with traditional posterior repair surgery. A new surgical procedure, the Pelvic Organ Prolapse Surgery (OPUS) trial, which estimated the expected de novo SUI prevalence within 12 months of vaginal POP surgery with or without a Burch urethropexy. Efforts (CARE) trial data. CARE results showed that clinically predict postoperative SUI for vaginal prolapse reductio...