AHMEDABAD OBSTETRICS AND GYNAECOLOGICAL SOCIETY

AOGS TIMES

VIHAAN

OCTOBER 2023 I VOLUME 7

MOTTO : REDEFINING WOMEN HEALTH

THEME : CATCH THEM YOUNG

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TEAM AOGS MESSAGE

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Dear Members,

We hope you all have had Great Navraatri! Praying for 9 Avtaar of Mataji brings in a lot of peace and solace. May the Divine power bless all of us!

We hope you all are prepared to welcome Diwali 2023! Cleansing not only house, but also the inner self off of everything that's negative, and welcoming and filling the life with positivity! We wish you Happy Diwali and નૂતન વર્ષાભિનંદન in advance!

We have interesting articles in the bulletin and we invite articles from all our members, to make this bulletin a platform of sharing of knowledge.

Wishing all of us brighter, happier and colourful times!

Thank you!

EDITORIAL

Dr. Azadeh Patel
Clinical Director & IVF Specialist,
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Dr. Munjal Pandya
Associate Professor,
NMMC, Ahmedabad

Uterine Isthmocele- An Overview of Diagnosis & Management

- Any indentation representing myometrial discontinuity or a triangular anechoic defect in anterior uterine wall, with base communicating to uterine cavity, at the site of a previous CS

Exact Incidence: not known, 61% after primary CS, up to 100% after tertiary CS *(Betran AP et al, 2016)*

- TVS: 24-70% of those having at least one CS, on SHG: 56-84% with 1 or more previous CS *(Tulandi T et al, 2016)*

Women At risk of developing Isthmocele after Cesarean Section:

- Multiple CS
- Emergency CS at a later stage of labor
- Retroflexed uterus
- Overweight/Obese before and during pregnancy
- Impaired wound healing
- GDM
- Smoking/Tobacco

Hypotheses

1. "Low hysterotomy":
- Cervical Mucus will impair proper healing of lower segment.*(Vervoot AJ, 2015)*
- Distinction gets difficult when cervical dilation is > 5 cm, Duration of labor > 5 hours *(Kremer TG, 2019)*

2. Incomplete closure of uterine wall:
- Double layer hysterotomy closure using non-locking sutures: Thicker residual myometrium and a lower risk of a symptomatic isthmocele. *(Van der Voet FL, 2018)*

3. Early adhesion development in hysterotomy scar and anterior abdominal wall:
- Retroflexed uterus *(Sipahi S et al, 2017)*: Stretching on Lower segment impairs healing

4. Patient factors: Genetic Predisposition., Inflammatory/Infective Pathologies

Symptoms:

- Abnormal Uterine Bleeding: Post-menstrual bleeding (28.9-82%), Intermenstrual spotting
- Pathology: suggested free RBC in scar tissue *(Morris et al, 1995)*
- Presence of blood in isthmocele is also associated with higher mucus secretion *(Van der Voet LF, 2014)*
- Dysmenorrhea and pelvic pain: Due to inflammatory changes
- Dyspareunia
- Vaginal Discharge
- Secondary Infertility: Adverse changes in cervical mucus, sperm ascent, embryo implantation

Potential Complications:

- Increased risk of complications during Gynec Procedure
- Placenta Accreta
- Placenta Previa
- Scar Pregnancy
- Secondary Infertility
- Uterine Dehiscence

Diagnosis:

- Immediately after menses
- TVS: Deposit of blood within isthmocele, seen as an anechoic triangle defect in myometrium, with base communicating to uterine cavity, or a deformity (wedge, shape, concavity or sacculation) on anterior isthmus *(Fabres C et al, 2003; Tulandi T et al, 2016)*
- Sonohysterography: Prevalence gets higher with SHG (56-84%) as compared to TVS (24-70%), as SHG is more sensitive than TVS, making defect larger or deeper
- SIS fills the defect and provides contrast, giving better results defining more defects and more often classifying them larger on avg of 1-2 mm
- Gel instillation sonography (GIS) vs TVS: Higher prevalence (64.5%)

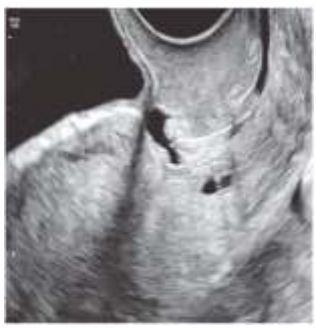

Fig. 1: TVS of Isthmocele

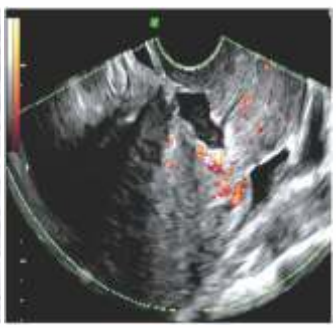

Fig 2: SIS (Saline Infusion Sonography)

- HSG: Not much useful, specifically when there is collection of mucus/blood in isthmocele
- MRI: Same accuracy as TVS
- Hysteroscopy: Direct visualization of isthmocele, but may not address RM thickness

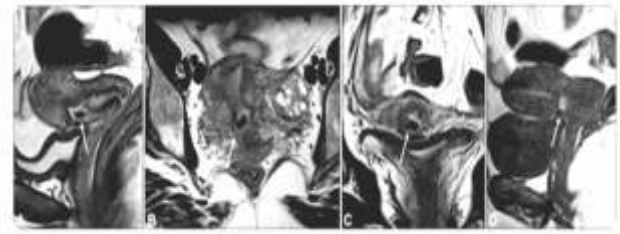

Fig 3: A, B, C: T1 weighted images of MRI; D: T2 weighted image og MRI

Classification:

- Large defect: Myometrial reduction of >50% of wall thickness or even >80% *(Ofili-Yebovi D et al, 2008)*
- Large defect: RM <2.2 mm by TVS and < 2.5 mm by SHG *(Osser OV, 2009)*
- For management purposes, cutoff of RM <3 mm as a large defect and RM >3 mm as a small defect *(Marotta ML et al, 2013)*
- Asymptomatic or Symptomatic *(Tower AM et al, 2013)*

Treatment:

- Size of defect
- Symptoms
- Secondary infertility
- Desire for childbearing

Expectant management: Small isthmocele (RM ≥3 mm)

- Oral Contraceptive Pills: Regularization of menses, and lowering the blood flow

Hysteroscopic Correction:

- Safest, Easiest, Fastest in patients with adequate residual myometrium thickness overlying isthmocele (RM> 3 mm) *(Marotta ML, 2013)*
- Resection of fibrotic tissue
- Fulguration of base of pouch, to prevent further mucus/blood secretion
- Results: favourable outcome (59.6-100%), completely solving AUB in 72.4% *(Abacjew C et al, 2017)*
- Risks: Uterine perforation and bladder injury

Laparoscopic Repair:

- For thinner residual myometrium (RM < 3 mm)
- Improvement of abnormal uterine bleeding (71.4%)
- Chronic Pelvic Pain (83.3%)
- Secondary Infertility (83.3%) *(Karampelas S et al, 2021)*
- Mean RM Thickness: Increased significantly from 1.77 mm pre-operatively to 6.67 mm 3-6 months post-operatively
- No recurrence of symptoms after delivery
- Insertion of uterine probe through cervix
- Vesicouterine peritoneum is detached
- CS scar is opened
- Excision of fibrotic tissue from its edges

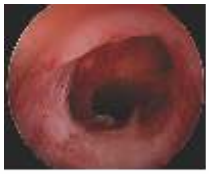

Fig. 4: Hysteroscopic view of Isthmocele

- Hegar's dilator is inserted before closing the defect
- 2-3 separate X sutures using 0 Monocryl are used to close deepest layer of scar including endometrium
- Second superficial layer of running suture using 2-0 Monocryl applied as double layer closure
- Retroverted uterus: Round ligament plication should be done, or plication with external oblique aponeurosis
- Combined Hystero+Laparoscopy: The best, as transillumination through hysteroscopic route will serve as an accurate guide while dealing with laparoscopy

Hysterectomy: When Hysterectomy is indicated, with completed family

Vaginal Procedure:

- Minimally invasive and effective
- Dissection of bladder from cervix and uterus
- Defect is excised, hysterotomy closed in 2 layers
- Cost-effective, shorter operative time, comparatively more effective than laparoscopy *(Zhang Y et al, 2016)*
- Surgical expertise is required

Fertility restoration: Disappearance of accumulated intra-uterine fluid and blood, decreased niche depth and increased RM, correct insertion of catheters during embryo transfer *(Vissers J et al, 2020)*

- Monofilament suture: Positive effect on uterine scar healing and on RM thickness when compared with Multifilament suture. *(Basbug A, 2019)*

Histology:

- RM covering niche was found to contain fibrotic tissue
- Density of muscle fibres in that area was significantly lower than healthy myometrium adjacent to scar
- Resulting reduced contractility of uterus impairs drainage of menstrual blood and debris flow and predisposes women to AUB and SI

Follow up after surgery:

- Contraception for 3 months post-operatively
- Delivery by CS at 39 weeks in subsequent pregnancy

Isthmocele and Pregnancy:

- RM in LUS by USG
- LUS thickness of 3.1-5.1 mm and RM of 2.1-4.0 mm: Strong negative predictive value for occurrence of dehiscence or uterine rupture during a trial of labor
- RM of 0.6-2.0: Strong positive predictive value for occurrence of defect *(Kok N et al, 2013)*

Prevention:

- Reducing rates of CS
- Avoiding Overweight/Obesity before and during pregnancy
- Adequate Glycemic Control
- Avoiding Smoking/Tobacco

Presenting first published case of mesonephric cyst endometriosis in the world and first laparoscopic surgeon in the world to operate mesonephric cyst endometrioma

Mesonephric Cyst Endometrioma: Surgical Management of an Atypical Site Endometriosis

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Dr. Ripal Modi

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ABSTRACT

Objectives: Endometriosis originating in mesonephric cystis unusual and with unknown prevalence. Endometrioticlesion in vestigial remnant of wolffian duct (mesonephriccyst) is exceptional. In the extended literature review onlythree cases have been reported in animal studies, and ourcase reported here is the first in human beings. We presenta case of mesonephric cyst endometrioma in a 37-year-oldpatient who was referred for severe dysmenorrhea, longduration pelvic and back pain, subfertility, severe dyspareunia, and groin discomfort. The patient underwent laparoscopic removal and we performed a literature review to gain insight about the origin and surgical management ofan atypical site endometriosis.

Methods and Procedures:

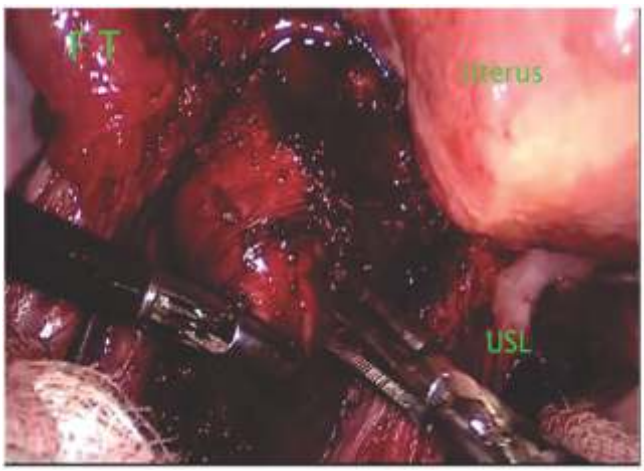
Case report presentation restson information obtained from the patient database. We performed the literature review using a Medline search withthe keywords: mesonephric cyst endometriosis, atypicallocation of endometriosis in vestigial remnant in wolffianduct, and Gartner duct cyst endometrioma.

Results:

On physical examination, fullness and tenderness in left adnexa and lateral vaginal wall fullness on leftside with restricted mobility of uterus was noted. Basedon the examination and imaging the left ovarian cyst andmesonephric cyst were suspected. Surgical explorationrevealed the left hemorrhagic cyst with deep infiltratingendometriosis involving left ureter and left uterosacral ligament with mesonephric cyst endometriosis. The reviewof literature revealed three cases where ectopic endometrial tissue in mesonephric cyst remnant was found infemale dogs.

Conclusion:

Mesonephric cyst endometrioma, althoughrare, can be a representative of extensive endometriosis.This case highlights an importance of careful clinical examination, correlation of patient symptoms with examination and imaging, and successful laparoscopicmanagement of an atypical location endometrioticlesions. We completed the literature review on successful surgical management of such cases.



Read full article : https://pubmed.ncbi.nlm.nih.gov/37808583/

GENETICS IN INFERTILITY

DR. ARATI GUPTE
MD, MICOG,
Reproductive medicine Specialist

Infertility has multiple causes. One of the causes that is still relatively new is genetic defects. There are both male and female genetic factors that cause infertility and they are a lot more common than most people would expect. Incidence of female factors is 35% of total infertility causes and Male factors is 15%.

When doesone suspect genetic causes of infertility?

Male:

- Severe oligospermia
- Azoospermia

Female:

- Low AMH (esp at a young age)
- POI
- Uterine/ mullerian anomalies

Couple:

- Unexplained infertility
- RPL / RIF
- h/o abnormal child
- Family history of genetic disorders
- Consanguinous marriages/ specific ethnic groups

Some specific mutations to look for in male infertility:

Y chromosome microdeletion- The Y chromosome carries genes that are crucial for sperm production and maturation. Microdeletions refer to the loss of specific regions of the Y chromosome, particularly the AZF (azoospermia factor) regions, which are important for normal sperm development.

Aneuploidy: Aneuploidy refers to an abnormal number of chromosomes. In the context of male infertility, aneuploidy can occur in sperm cells

CFTR gene mutations: transmembrane conductance regulator (CFTR) gene can lead to a condition called congenital bilateral absence of the vas deferens (CBAVD)

AR Gene Mutations: Mutations in the AR gene can result in androgen insensitivity syndrome (AIS), where individuals have partial or complete insensitivity to androgens (male sex hormones). Diagnosed by raised testosterone and LH. AIS can lead to impaired sperm production.

Female infertility is a lot more complex as there are multiple genetic causes that can cause infertility.

It can be diagnosed by disruption of :

- Oogenesis
- Endometrium
- Implantation

Some specific mutations to look for in female infertility:

Primary Ovarian Insufficiency: although this is a multifactorial disorders, some specific gene mutations that can cause POI are:

- FSHR (follicle-stimulating hormone receptor)
- BMP15 (bone morphogenetic protein 15),
- GDF9 (growth differentiation factor 9),
- NR5A1, FOXL2, and NOBOX, have also been linked to POF.

Fragile X– This can be suspected when there is no response to stimulation during ART cycles. It is caused due to a mutation in the FMR1 gene.

Epigenetic modifications: Epigenetics refers to changes in gene expression or cellular function that occur without alterations to the underlying DNA sequence. These changes can be influenced by various factors, including environmental exposures, lifestyle choices, and developmental processes.

Epigenetic modifications can have significant implications for female infertility :

- Ovarian Function- aberrant DNA methylation patterns in genes involved in ovarian follicle development or steroidogenesis can disrupt normal ovarian function.
- Imprinting Disorders- Imprinting is an epigenetic phenomenon that results in the differential expression of genes based on their parental origin. Imprinting disorders, characterized by abnormal gene imprinting, can impact fertility.
- Endometrial Receptivity- Altered DNA methylation patterns or histone modifications in genes involved in endometrial receptivity can impair embryo implantation and lead to infertility.

Mullerian abnormalities: mutations in HOXA 10, 11,13 plus other genes

Patients with **BRCA 1 &2** gene mutations have low AMH and go into POF

Genetic testing

- Karyotype Analysis
- Fragile X DNA Testing
- Next-Generation Sequencing (NGS)
- Single Gene Testing: Single gene testing involves analyzing specific genes known to be associated with infertility.
- PGT

CONGRATULATIONS

DR. DILIP GADHAVI

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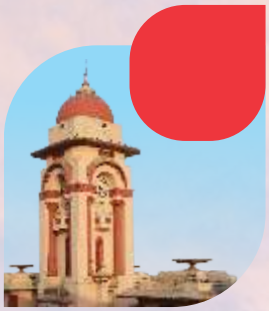
CONGRATULATONS

Congratulations for being selected as president of ladies club, AMA

Dr. Kshama Shah

46TH SOGOG 2023



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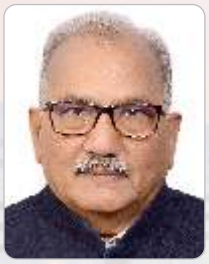

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PRESENTING THE FIRST EVER STUDY FROM INDIA ON CARCINOMA ENDOMETRIUM

SURGICOPATHOLOGICAL OUTCOMES AND SURVIVAL IN CARCINOMA BODY UTERUS: A RETROSPECTIVE ANALYSIS OF CASES MANAGED BY LAPAROSCOPIC STAGING SURGERY IN INDIAN WOMEN

Objectives: The context of this article is based on two main titles those being Gynecologic Oncology and Minimal invasive surgery. **The aim of this study was to report the laparoscopic management of a series of cases of endometrial carcinoma managed by laparoscopic surgical staging in Indian women.**

Materials and Methods: This study was conducted in a private hospital (referral minimally invasive gynecological center). This was a retrospective study (Canadian Task Force Classification II-3). Eighty-eight cases of clinically early-stage endometrial carcinoma staged by laparoscopic surgery and treated as per final surgicopathological staging. All patients underwent laparoscopic surgical staging of endometrial carcinoma, followed by adjuvant therapy when needed. Data were retrieved regarding surgical and pathological outcomes. Recurrence-free and overall survival durations were measured at follow-up. Survival analysis was calculated using Kaplan–Meier survival analysis.

Results: The median age of presentation was 56 years, whereas the median body mass index was 28.3 kg/m2. Endometroid variety was the most commonly diagnosed histopathology. There were no intraoperative complications reported. The median blood loss was 100 cc, and the median intraoperative time was 174 min. There were a total of 5 recurrences (5.6%). The outcome of this study was comparable to studies conducted in Caucasian population. **The predicted 5-year survival rate according to Kaplan–Meier survival analysis is 95.45%, which is comparable to Caucasian studies.**

Conclusion: Laparoscopic management of early-stage endometrial carcinoma is a standard practice worldwide. However, there is still a paucity of data from the Indian subcontinent regarding the outcomes of laparoscopic surgery in endometrial carcinoma. The Asian perspective has been highlighted by a number of studies from China and Japan. **To our knowledge, this study is the first from India to analyze the surgicopathological outcomes following laparoscopic surgery in endometrial carcinoma.** The outcome of this study was comparable to studies conducted in Caucasian population.

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