GHAZIABAD OBSTETRIC & GYNAECOLOGICAL SOCIETY

GOGS

GOGS

Ghaziabad **Obstetric and Gynaecological** Society

XXIV Annual Conference cum CME

9th October 2022

Presenting

e-UPDATE 2022

GANESH MULTISPECIALITY HOSPITAL & TEST TUBE BABY CENTRE

GANESH TEST TUBE BABY CENTRE

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- Urology and Nephrology
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- Cardiology
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- Dietary
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- Anesthesiology & Critical Care
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- Dental
- Andrology
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II-C/3, Nehru Nagar, Ghaziabad (U.P.), Tel: 0120-4183900 (30 Lines), Mob.: +91-8800097156
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Message from Team Akshra

Greetings to all!

Dear friends,

It is a great honour and privilege to be able to reach out to you all via this message. On behalf team Akshra, we thank all the GOGS members and we pledge to put forth our best efforts to make this 24th annual CME of GOGS a roaring success.

Women's health in all its aspects – maternal, fetal and neonatal, oncology, infertility, psychosocial issues, etc need enhanced attention in this post COVID phase. Hence, the theme of comprehensive women's health to tackle the various issues and challenges arising out of these. Our team is fully geared up to achieve this and we are looking forward to all the members of GOGS family participating fully and enthusiastically in this journey. With relentless efforts and selfless sacrifices, we have collectively fought against COVID-19, and the light at the end of the tunnel is apparent. Life is returning to normal and we hope to see you all at our annual CME on 9th October 2022.

It gives us great pride to present to you our e-souvenir for the first time in the history of GOGS, which is the result of the hard-work put in by our editorial team.

We are confident you will enjoy reading it!

Thank You

Long live GOGS!
Team Akshra.

Message from Dr Archana Verma

Seasons Greetings

Many wishes for all to stay happy and healthy ,

I always say opportunities never give appointments, one has to be ready to grab them . I got the bestest opportunity of working with a vibrant and enthusiastic Gogs team.
This team has really worked hard to put their concern and thoughts with full commitments and with great Transparency, backed by super experts from all over India to carry on this annual CME to give latest scientific evidence and truly enlightening all members, so they can clarify all their myths and update themselves. The academic deliberations will definitely improve their contribution in building healthy India and fit India.

Skill - knowledge -social work, adolescent health, cancer awareness was the main focus throughout the year, keeping in sync with the Theme: Let's update because her health matters.
We must support each other in time of Emergency , stay connected , so that all feel empowered, Cancer awareness , anemia prevention , and making Ghaziabad nearer to SDG GOALS is what we can give back to society by saving a girl child and saving mothers from PPH deaths and other preventable causes of maternal mortality

Keep shining , you are doing best ,

With best wishes
Regards
Dr Archana Verma

Message from Dr. S Shantha Kumari

President, GOGS

I am happy to know that Ghaziabad obstetrics and Gynecology society is organising its annual conference and have decided to bring out e-souvenir on this occasion. I am sure that scientific program and deliberation of your annual conference will add to the value to concept of working for women education , awareness and empowerment . There are lot of advances in the field of obstetrics and gynaecology and it is our duty to use them judiciously and for benefit of our patients . I hope there will be lot of deliberations on these advances and all members will take few messages to practice in daily routine clinical practice

I wish all the very best to you and whole GOGS team for a highly successful and interactive annual CME

Best regards

S. Shantha Kumari

Dr. S. Shantha Kumari
FOGSI - President

Message from Dr. Sangeeta Goel

Dear Members,

I feel honoured to have served as Patron for the Ghaziabad Obstetric and Gynaecological Society. During the year, we have focused on promoting healthcare initiatives with an academic, social and community level impact across the doctors of our community

Many members contributed to our initiatives and it's been a matter of pride to see how we have fared so far. Team Akshara was instrumental in the success of this year's CMEs and overall participation from the community. Kudos to them!

Every day we are amazed by our community who use innovation, ideas, and service to create impact from the local to global level. We are inspired. By doing what we do, we get to fulfill our mission by delivering the message that we all have the power to make a difference.

“Alone, we can do so little; together, we can do so much” – Helen Keller

We have been seeking to bring a change however small, and today we get to do just that with your help, and so we greatly thank you.

Dr. Sangeeta Goel
CMS DWH Ghaziabad

Message from Dr. Bhavtosh Sankhthar

Message – Ghaziabad Obstetric & Gynecological Society

" Healthy Women World" embodies the fact that as custodians of family health, women play a critical role in maintaining the health and overall well-being of her communities. A woman's health is the most important in today's society. As we know , the health of families and communities are tied to the to the health of successful events organized by you. My hearty congratulations for grand annual CME to be held in 09 October, 2022. You are amazing , wishing you for one more grand success to add in your milestone. Once again my warm wishes for you people to make this world a batter place to live for women.

With Regards

Dr. Bhavtosh Sankhthar
Chief Medical Officer
Ghaziabad

Message from Dr Sundeep Varshney

I am really excited to write a message for this highly dedicated team GOGS , who is organising xxiv annual conference . The name of the team **"Team Akshara"** on the name of Goddess Saraswati hints their inclination towards studies and upgrading knowledge . I loved the theme of the conference **" Let's update because her health matters"** , because it really matters . .

The commitment of the team and members of GOGS is highly commendable and appreciable.

I congratulate president Dr Ritu Jain , secretary Dr Manisha Aggarwal and the whole organising team for their good work and wish the conference to be a big success.

With regards
Dr Sundeep Varshney
President IMA Ghaziabad 2022-23

Message from From the Editors' desk

On behalf of Team Akshara(2022-23), with pleasure and anticipation, we present before you all ,the e-UPDATES on the occasion of much awaited XX1V Annual Conference GOGS.

We wholeheartedly thank our dynamic president Dr Ritu Jain and her Team for entrusting such a huge responsibility on us. We would also like to thank all the authors who took out time from their busy schedule to pen down articles for the souvenir. The motto of the Annual Conference is Lets Update because her Health matters. On this theme we have tried to include articles dealing with the optimum holistic health care for women. Hope the e-souvenir offers something interesting and informative to all.

And Last but not the least, we take this opportunity to congratulate and wish Team Akshara good luck for the annual conference .Hope you all enjoy the academic feast on 9th October.

With Regards

Dr Manisha Gupta
Dr Neelima Agarwal
Dr Sarita Goel

Team Akshra

Team Akshra

Dr. Seema Varshney- Election Officer

Patron GOGS-- CMS, Ghaziabad

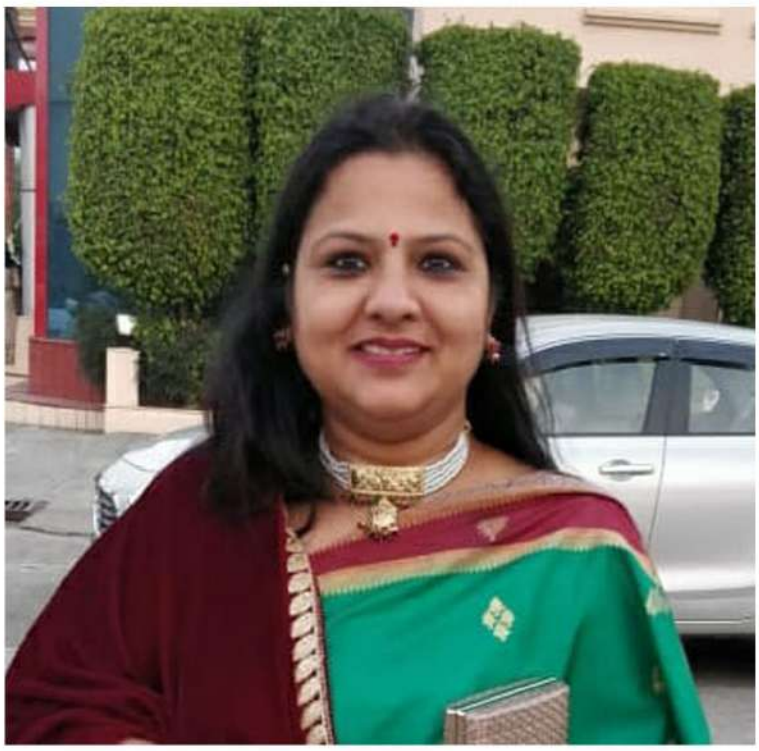
Dr. Archana Verma-VP North Zone FOGSI

Advisory Committee

Scientific Committee

Social Awareness Committee

Souvenir Committee



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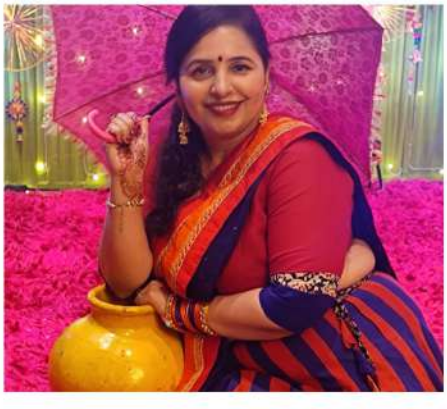
Area Executives

Executive Team 22-23

Teej Celebration



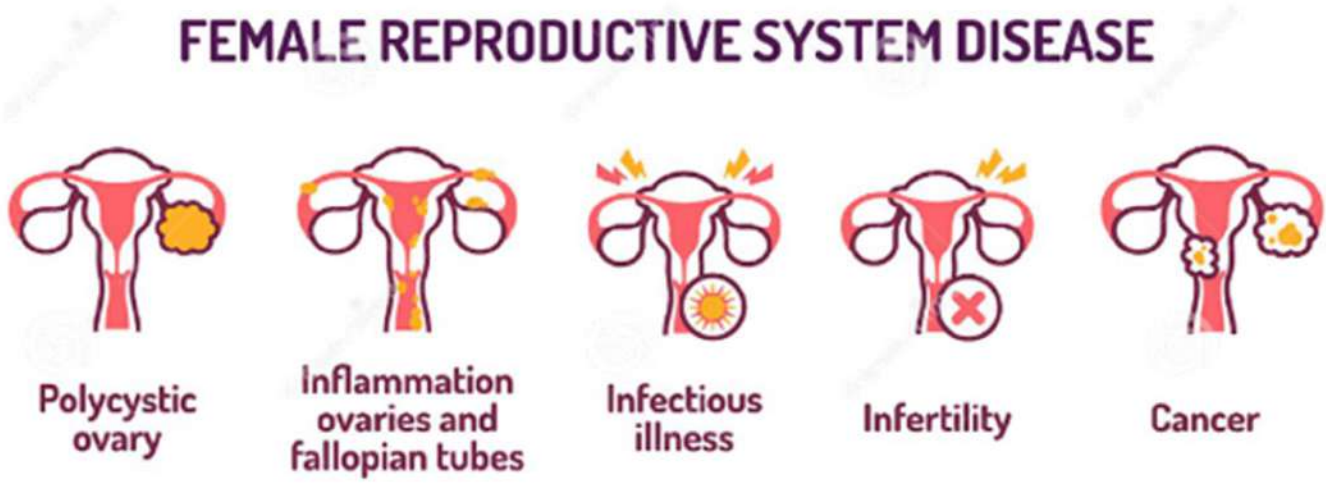
ARTICLE

LACTOFERRIN AND LACTOBACILLLUS – A REVOLUTIONARY COMBINATIONS

DR NEHARIKA MALHOTRA - AGRA

Introduction

- Women's health is already a global priority and poised to emerge as an even greater and more urgent one for the post pandemic world
- Women's health is the net result of the interplay between their hormones, gender, sex, genetics, biology, and their socio cultural environment

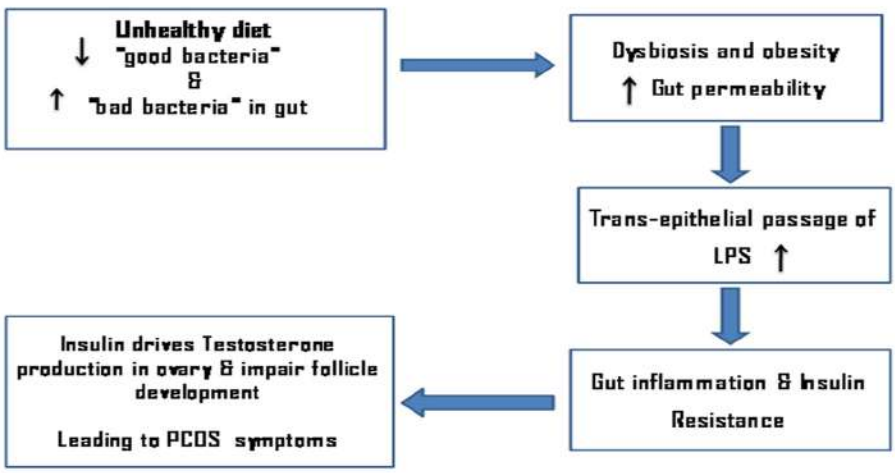


PCOS

It is one of the most common endocrinopathies, affecting 5–10% of women of reproductive age
It is associated with 75% of women who suffer from infertility due to anovulationseases.

Specific abnormalities of insulin metabolism identified in PCOS women include:

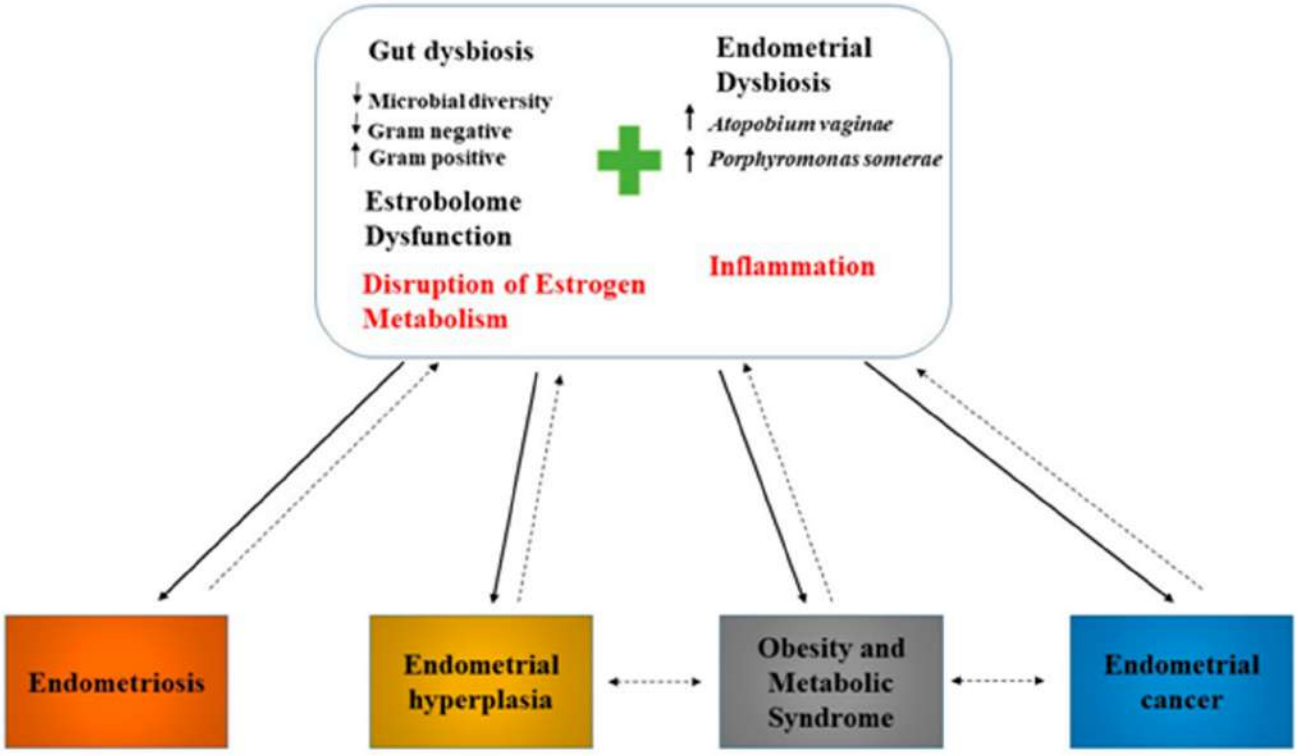
- Impaired suppression of hepatic gluconeogenesis
- Abnormalities in insulin receptor signaling
- Disturbed insulin mediated glucose transport into the muscle
- All these lead to hyperglycemia followed by compensatory hyperinsulinemia



ENDOMETRIOSIS

The pathogenesis and pathophysiological features of pelvic endometriosis are complex. Potential origins of the endometriotic lesions include transplantation of endometrial tissue through retrograde menstruation and in situ coelomic metaplasia of the peritoneal lining. Vascular or lymphatic metastasis most likely occurs onlyrarely, in cases of extrapelvic lesions. Superficial and deep endometriotic lesions are established and maintained through interacting molecular mechanisms that promote cellular adhesion and proliferation, systemic and localized steroidogenesis, localized inflammatoryresponse and immune dysregulation, and vascularization and innervation.

The dashed arrow indicates a postulatedeffect. ER denotes estrogen receptor, HSD17β2 17β-hydroxysteroid dehydrogenase 2, ICAM intercellularadhesion molecule, IGF insulin-like growth factor, NF-κB nuclear factor κB, NGF nerve growth factor, PR progesterone receptor, SF1 steroidogenic factor, STAR steroidogenic acute regulatory protein, TNF tumor necrosisfactor, and VEGF vascular endothelial growth factor.



PREGNANCY AND DYSBIOSIS

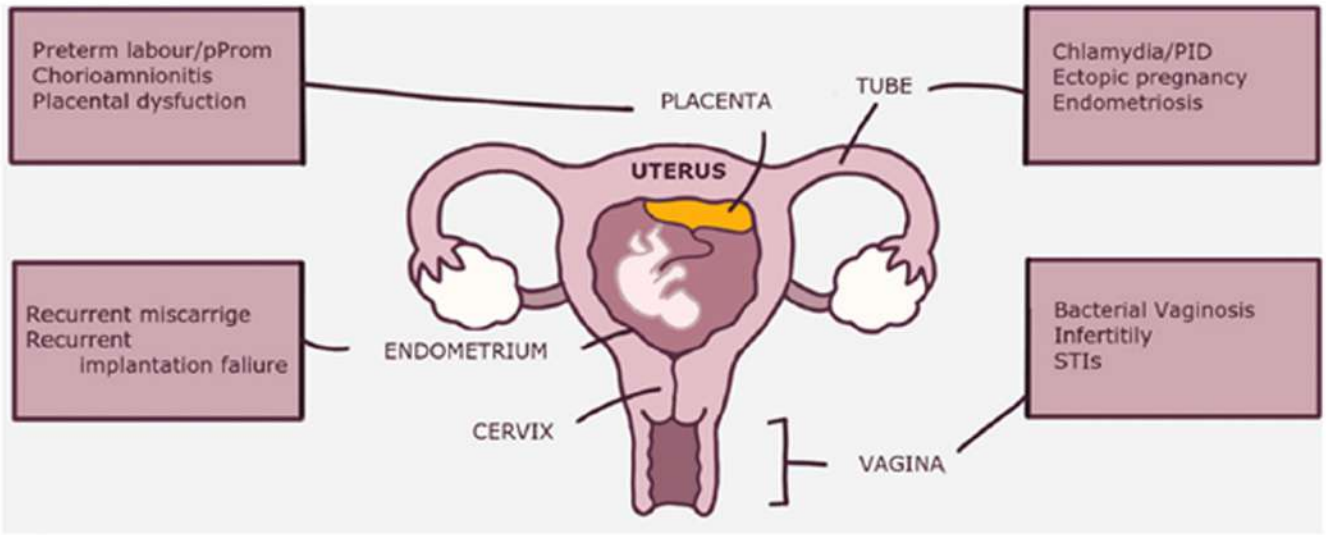
Vaginal microbiome undergoes significant changes during pregnancy by increased stability, a decrease in overall diversity, and predominance of Lactobacillus species

Any pathologic changes in their profile may make the vagina susceptible to infections,

Microbiome may also change with environment, weight, diet pattern and hormonal mileu.

Thus, immunological, endocrinological and metabolic changes during pregnancy can cause significant alterations in the microbiome

These changes may make a woman susceptible to genital tract infections which can result in adverse gestational outcomes like preterm birth and pregnancy complications



VAGINAL DYSBIOSIS AND UTI

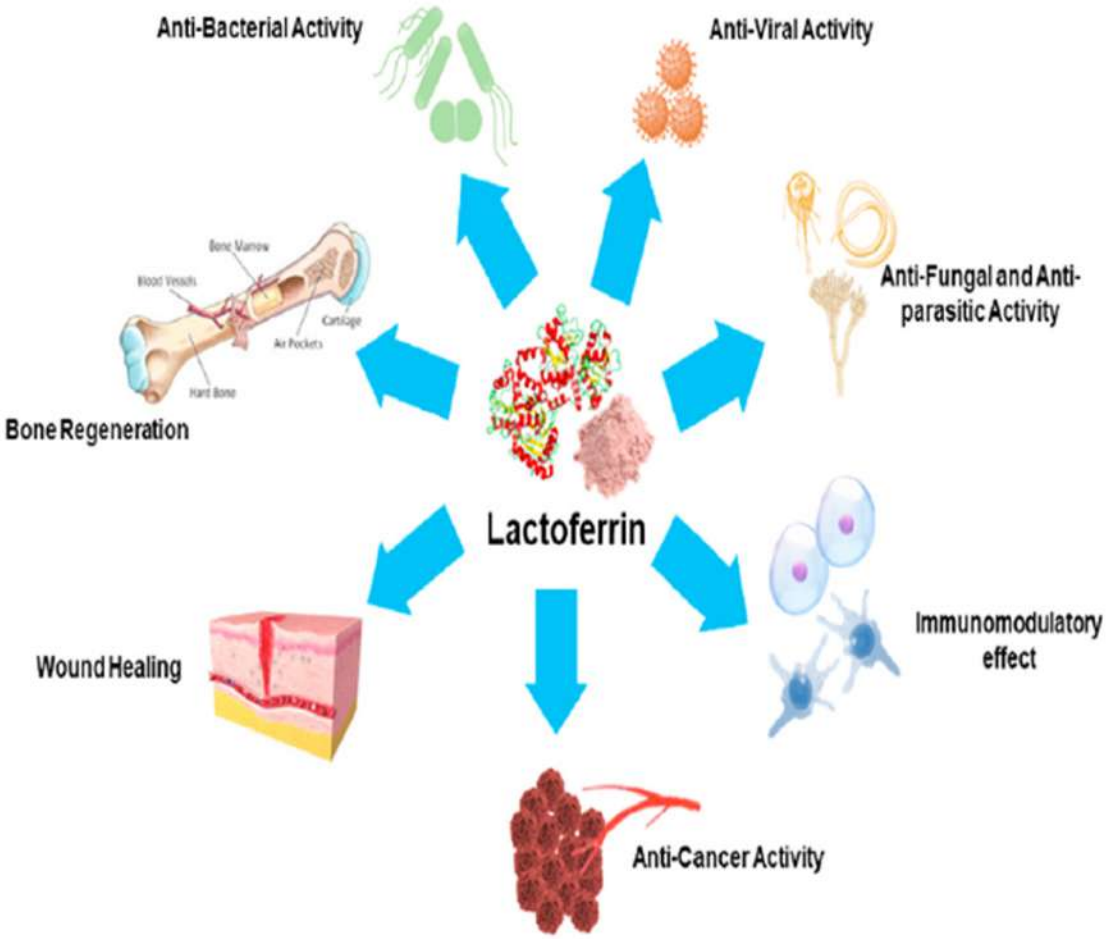
- Depletion of lactobacilli or imbalance between lactobacilli and uropathogens has been documented in patients with UTI
- Vagina is a key anatomical site in the pathogenesis of UTI, serving as a potential reservoir for infecting bacteria
- Initial step in the pathogenesis of UTI is colonization of the vagina and periurethra with infecting uropathogens, followed by ascension of uropathogens via the urethra to the bladder and sometimes the kidneys to cause infection
- Multiple culture-based studies showed that women with recurrent UTI often have increased rates of colonization with E. coli and depletion of the normally predominant H2O2-producing lactobacilli

LACTOFERRIN AND LACTOBACILLUS- A REVOLUTIONARY COMBINATION

- Lactoferrin is a protein that naturally exists in our bodies. It is used in the nutrition sector in products targeted at infant nutrition and food supplements. Lactoferrin has also NOW been introduced in the health and beauty sectors
- Pivotal components of first-line defense in the female mucosal genital tract
- Involved in protection against a multitude of microbial infections and the most effective natural mechanism to dampen inflammatory processes

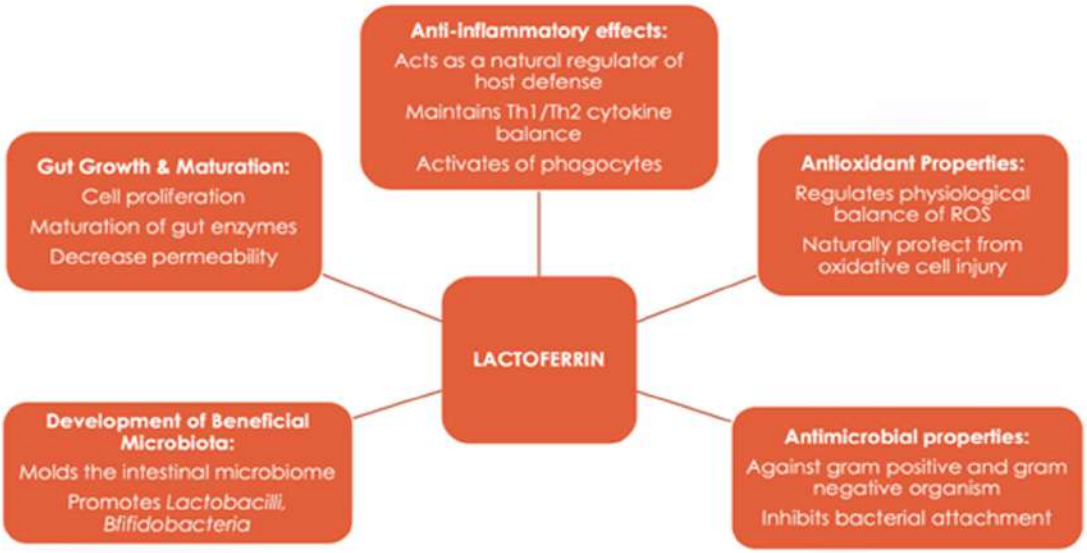
Both lactobacilli and Lf :

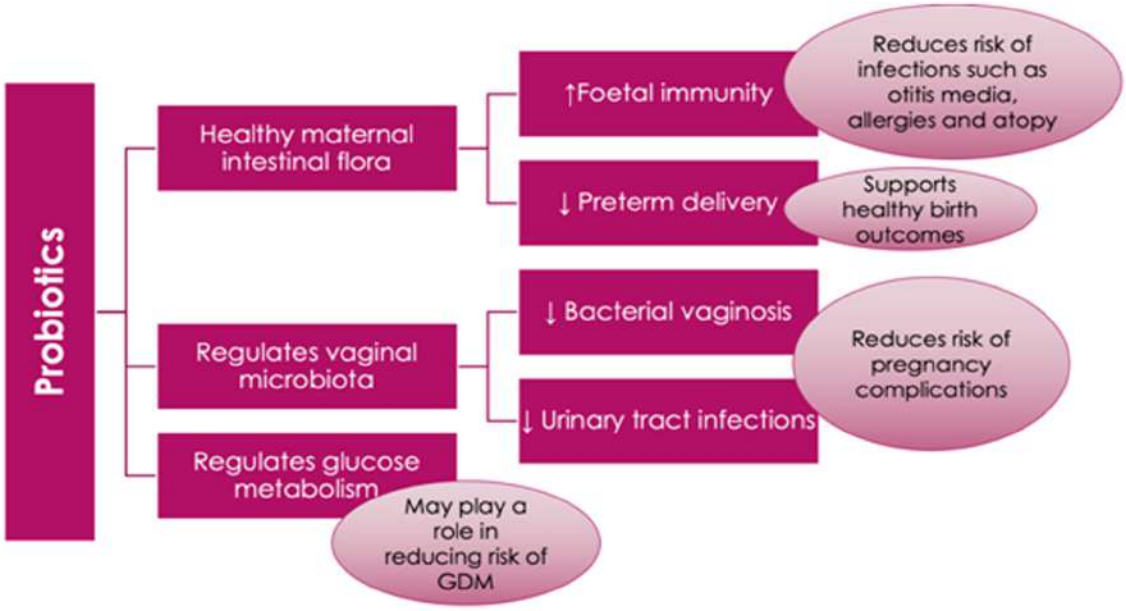
- Can inhibit the adhesion and consequently the microbial entry inside the cells
- Appear complementary since lactobacilli inhibit microbial intracellular replication and together with Lf hinder the infection of still healthy cells
- This close cooperation is also exerted through their anti-inflammatory function.



USES

Lactoferrin





SAFETY

- Probiotics are mostly considered to be safe
- Lactobacillus species utility is related to their GRAS status
- Elias J, et.al article published in 2011 Probiotics do not appear to pose any safety concerns for pregnant and lactating women. Systemic absorption is rare when probiotics are used by healthy individuals, and the current literature does not indicate an increase in adverse pregnancy outcomes
- Bovine Lf generally recognized as a safe substance (GRAS) by the Food and Drug Administration (FDA, USA)

ARTICLE

Medical Management of Fibroid

Dr. Richa Singh- Professor, Dept. of Obs and Gynaentosh Medical college & Hospital

S.N. Medical College, Agra

Introduction

Uterine fibroids are the most common benign tumors in women of reproductive age. The prevalence of fibroid ranges from 4.5-68.6% of women of reproductive age. Hormones like estrogen and progesterone have been implicated in growth of myomas. Estrogen receptors have been found in higher concentration in myomas. Myomas increase in size with estrogen therapy and in pregnancy and regress after menopause. Progesterone increases mitotic activity and reduces apoptosis in cells. Genetic predisposition has also been found for myomas.

Diagnosis

History of patient and physical examination are required for clinical diagnosis. For confirmation, pelvic ultrasound is the recommended initial imaging modality for diagnosis of uterine fibroids. Evaluation of uterine cavity in patients of submucus fibroids may require saline infusion sonography or hysteroscopy. Investigations like magnetic resonance imaging may be required when complex intervention is planned or malignancy is suspected.

The management of uterine fibroids should be tailored according to the size and location of fibroids, patient's age, symptoms, desire to preserve fertility and access to therapy and the physician's experience.

Expectant therapy

About 3-7% of fibroids are asymptomatic and regress in size at menopause. Because of minimal concern for malignancy watchful waiting is preferred for management.

Medical management

1.Gonadotropin-releasing hormone agonists

- Preoperative treatment to decrease size of tumors before surgery or in women approaching menopause
- Decrease blood loss, operative time and recovery time
- Term treatment associated with higher cost, menopausal symptoms, and bone loss, increased recurrence risk with myomectomy

2.Levonorgesterol releasing intrauterine system (Mirena)

- Treats abnormal uterine bleeding, likely by stabilizing of endometrium
- Most effective medical treatment for reducing blood loss, decreases fibroid volume
- Irregular uterine bleeding, increased risk of device expulsion

3. Nonsteroidal anti-inflammatory drugs

- Anti-inflammatories and prostaglandin inhibitors
- Reduce pain and blood loss from fibroids
- Do not decrease fibroid volume, gastrointestinal side effects

4. Oral contraceptives

- Treat abnormal uterine bleeding, likely by stabilizing of endometrium
- Reduce blood loss from fibroids, ease of conversion to alternate therapy if not successful
- Do not decrease fibroid volume

5. Selective progesterone receptor modulators

- Preoperative treatment to decrease size of tumors before surgery or in women approaching menopause
- Decrease blood loss, operative time, and recovery time; not associated with hypoestrogenic side effects
- Headache and breast tenderness, progesterone receptor modulator-associated endometrial changes; increased risk with myomectomy

6. Tranexamic Acid

- Antifibrinolytic therapy
- Reduce blood loss from fibroids; ease of conversion to alternate therapy
- Do not decrease fibroid volume, medical contraindications

Surgical therapies

1.Hysterectomy

- Surgical removal of the uterus (transabdominally, transvaginally or laparoscopically)
- Definitive treatment for women who do not wish to preserve fertility, transvaginal and laparoscopic approach associated with decreased pain, blood loss and recovery time compared with transabdominal approach
- Surgical risks higher with transabdominal surgery(e.g. infection, pain, fever, increased blood loss and recovery time) morcellation with laparoscopic approach increases iatrogenic dissemination of tissue

2. Magnetic resonance guided focussed ultrasound surgery

- In situ destruction by high intensity ultrasound waves
- Non-invasive approach, shorter recovery time and modest symptom improvemnet
- Heavy menses, pain from sciatic nerve irritation, higher reintervention rate

3. Myomectomy

- Surgical or endoscopic excision of tumors
- Resolution of symptoms with preservation of fertility
- Recurrence rate of 15-30% at 5 years, depending on size and extent of tumor

4. Uterine artery embolization

- Interventional radiologic procedure to occlude uterine arteries
- Minimally invasive, avoids surgery, short hospitalization
- Recurrence rate >17% at 30 months; post-embolization syndrome

Newer modalities for medical management

1.GnRh Anatgonists

- Act immediately by suppression of FSH and LH by blocking pituitary GnRH receptors.
- Rapid onset of action and avoidance of gonadotropic flare effect

2. Selective progesterone receptor modulator

- Mifepristone- Primarily has progesterone receptor antagonist activity. It is used in doses of 10mg and 25mg.can be given for 3-6 months. A Cochrane review of 3 RCTs evaluating mifepristone for the treatment of symptomatic fibroid demonstrated significantly reduced bleeding improved quality of life in users
- Ulipristal acetate- It blocks progesterone receptors and is and anti progestational agent. It acts only on fibroid cells. It is available in doses of 5 and 10 mg and has to be taken on 1st to 7th day of menstrual cycle. PEARL I, II, III trials were conducted and the clinical recommendation given for ulipristal was 3 months of treatment of 5mg daily alternating with two menses during four cycles as an intermittent treatment. Ulipristal causes changes in endometrium, hence intermittent courses are recommended. If there is a persistent thickening of endometrium a biopsy may be indicated to exclude malignancy. The reason why this drug was withdrawn was that it caused serious acute drug induced liver injury requiring liver transplant and even leading to death.

Non hormonal therapy in uterine fibroids

A combination of three drugs

1.Tripterigium wilfordi

Decreases number and expression of progesterone and estrogen receptors. Decreases aromatase enzyme.

2. Epigallocatechin gallate(45%)

Drecreases expression of catechol-o-methyl transferase and has antiproliferative action

2. Epigallocatechin gallate(45%)

decreases transformin growth factor Beta 3.

This tablet can be started from any day of menstrual cycle and has a good safety window.

ARTICLE

Prophylactic salpingectomy for the prevention of ovarian cancer

Dr Seema Sehgal - MBBS, DGO, MRCOG

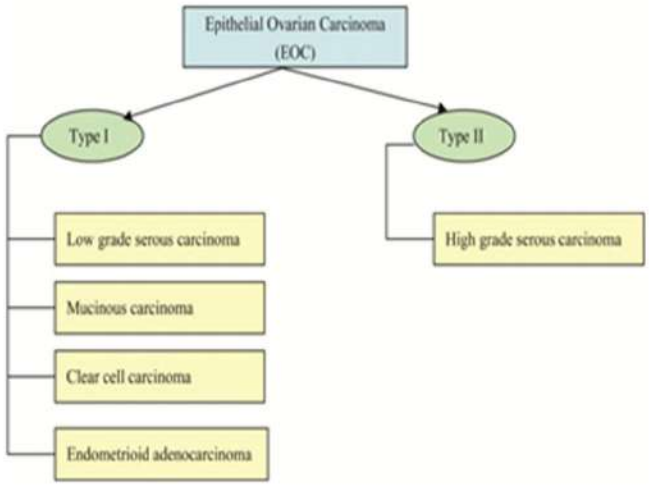
DIRECTOR, SEHGAL's HEART & WOMEN CARE CLINIC, NEHRU NAGAR GHAZIABAD

Introduction

Ovarian cancer is the most fatal gynaecologic malignancy due to a typically advanced stage at diagnosis and a high rate of recurrence. Screening strategies have had little impact to date because the pathogenesis of epithelial ovarian cancer has been poorly understood and no precursor lesion has been identified. Emerging data support that fallopian tubes are the site of origin for a proportion of high-grade serous cancers. This implies that a subset of cancers may be prevented by removing the fallopian tubes while leaving the ovaries intact. Accordingly, it is now recommended to remove both the fallopian tubes only instead of tubal ligation for sterilization or at the time of benign gynaecologic surgery, for average risk women. This has been termed "Opportunistic Salpingectomy" and represents a means of decreasing the burden of ovarian cancer by preventing cancers that arise in the fallopian tubes.

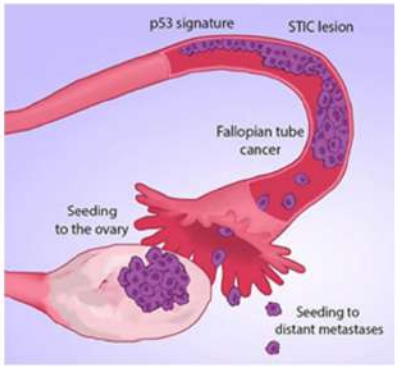
Epithelial Ovarian Cancers

Epithelial Ovarian Cancers (EOCs) comprise a heterogeneous group of neoplasms including serous (68%), clear cell (13%), endometrioid (9%) and mucinous (3%) pathological subtypes. Serous ovarian carcinomas are further divided into low-grade (type I) and high-grade (type II) serous ovarian carcinomas (LGSOC and HGSOC respectively). Most deaths are attributable to HGSOC which is approximately 20 times more common than LGSOC.



The fallopian tube and high-grade serous 'ovarian' cancer (HGSOC)

It has been proposed that there are two distinct pathways in 'ovarian cancer' carcinogenesis. The first involves the incorporation of mullerian epithelium into the ovary which gives rise to benign and borderline serous tumours, low-grade serous adenocarcinomas, endometrioid or clear cell tumours but rarely HGSOC. The second pathway involves malignant transformation of the distal fallopian tube mucosa through p53 overexpression known as P53 signatures and the development of STIC (Serous Tubal Intraepithelial Carcinoma).



These STIC lesions may invade locally into the underlying tubal wall, exfoliate onto the surface of the ovary or into the peritoneal cavity, or a combination of these possibilities. This exfoliation into the peritoneal cavity could explain the clinical

Preventing ovarian cancer with salpingectomy among women in the general population

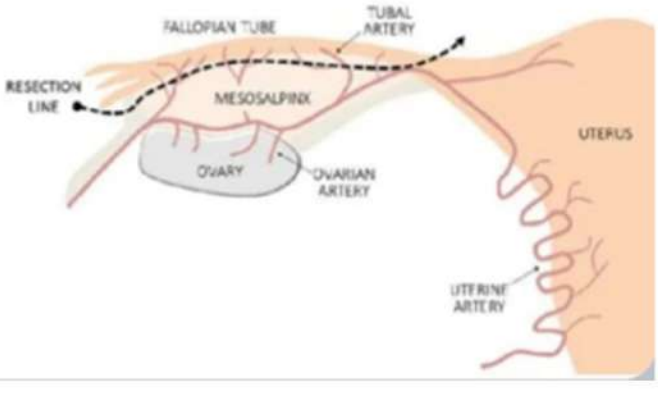
Bilateral salpingectomy alone represents a safe and feasible opportunity to potentially prevent a subset of serous cancers that initially arise in the fallopian tubes while mitigating the adverse effects associated with early surgical menopause, including menopausal symptoms, an increase in all-cause mortality and other comorbidities. However, plans to perform an opportunistic salpingectomy should not alter intended route of hysterectomy. Obstetricians-Gynaecologists should continue to practice minimal invasive techniques.

Counselling

The surgeon and patient should discuss the potential benefits of bilateral salpingectomy during a hysterectomy in women at population risk of ovarian cancer who are not having an oophorectomy. Counselling should also include an informed consent discussion about the role of bilateral salpingo-oophorectomy. Bilateral salpingo-oophorectomy that causes surgical menopause reduces the risk of ovarian cancer but may increase the risk of cardiovascular disease, osteoporosis, cognitive impairment, and all-cause mortality. Given current theories of ovarian carcinogenesis, ovarian conservation and salpingectomy may represent a better option than bilateral salpingo-oophorectomy for ovarian cancer risk reduction for most women undergoing other pelvic surgeries for benign disease.

During laparoscopic sterilization, woman should be counselled that bilateral salpingectomy can be considered a method that provides effective contraception, however, salpingectomy eliminates tubal reversal as an option for those women who experience regret and seek fertility options later.

Surgical technique of salpingectomy



Salpingectomy should remove the tube completely from its fimbriated end and up to the uterotubal junction; the interstitial portions of the tubes do not need to be removed. Any fimbrial attachments on the ovary should be cauterized or removed. Complete salpingectomy is preferred over fimbriectomy because precursors to fallopian tube cancer (or ovarian cancer) can be found throughout the fallopian tube; however, if complete salpingectomy cannot be performed, then removing as much of the fallopian tubes as possible, excluding the interstitial portion, still may have value. Stay as close to tube as possible (to respect ovarian blood supply)

Conclusion

- Salpingectomy at the time of hysterectomy or as a means of tubal sterilization appears to be safe and does not increase the risk of complications such as blood transfusions, and postoperative complications, compared with hysterectomy alone or tubal ligation.
- Ovarian function does not appear to be affected by salpingectomy at the time of hysterectomy.
- The surgeon and patient should discuss the potential benefits of the removal of the fallopian tubes during a hysterectomy in women at population risk of ovarian cancer who are not having an oophorectomy. Discussion should also include pros & cons of bilateral salpingo-oopherectomy.
- Although data are limited, postpartum salpingectomy and salpingectomy at time of caesarean delivery appear feasible and safe.
- The risks and benefits of salpingectomy should be discussed with patients who desire permanent sterilization
- In women with BRCA mutation bilateral salpingo-oopherectomy is standard of care for risk reduction.

References

ACOG committee opinion 2019
RCOG Scientific Impact Paper (SIP) no.44, 2014
International Journal of Cancer 2020, page no. 1246-1248, by Joanne Kotsopoulos &

ARTICLE

How to flatten the glucose curve : 10 handy hacks

by Dr Manju Mohan

Introduction

How to eat healthier and change our lives? That is a question that plagues most of us. We are conditioned to eat certain foods in a certain way. Our eating habits are a result of our childhood influences and our cultural milieu. As doctors, we study the basics of nutrition and its role in our well-being. Lately, nutrition has been studied in great detail due to the onslaught of so-called health foods which are actually making us sick. We know that processed food and sugar are bad for us, and yet we have cornflakes and cereals thinking that they are healthy choices. What about Sugar-free colas and low-fat snacks? Are they really making us lose weight? Studies have shown that sugar is our number one enemy, not fat.

We all know that our sugar rises within an hour after a meal and usually comes down to post-prandial levels after two hours in non-diabetics. But the spikes in glucose levels happen all day long depending on what we eat and how we eat it. Every time there is a glucose spike, our tissues get glycated (we are testing glycation in Hb only) causing spikes in insulin levels, oxidative stress and inflammation. A fluctuation of > 30mg is the harbinger of all chronic diseases. With continuous glucose monitoring machines, we know how our blood sugar fluctuates the whole day. We now know that flattening the glucose curve is the key to good health in both diabetics and non-diabetics.

The physiology of glucose metabolism and the role of insulin in maintaining our sugar levels is already known to us doctors. I will only add to what we already know - We overload our mitochondria by eating too much sugar and starch, leading to the exhaustion of mitochondria and ultimately their failure to provide ATP for energy needs. We sometimes eat only because we feel tired, what has actually happened is that our cells refuse to convert sugar into energy, the sugar is still circulating in our blood hence more insulin is secreted to compensate for rising sugar levels. Insulin levels rise, as it tries to push sugar into muscles and liver to no avail, we all know how hyperinsulinaemia wrecks our metabolic functions. How to prevent these spikes is the subject of this article. It is not an original article, I have summarised the salient features from a book called “Glucose Revolution: The Life-changing Power of Balancing Your Blood Sugar” by researcher and author, Jessie Inchauspe. First, let’s list out some myths about food -

- Weight loss is calories in and calories out.
- You should never skip your breakfast.
- Brown rice and fresh fruit juices are healthy.
- All fatty foods are bad.
- We need sugar for instant energy (which is why we have so-called energy drinks)
- Type 2 Diabetes is genetic and one will become diabetic eventually in life.
- Lack of willpower makes you gain weight.
- Lack of energy is due to low sugar levels.

4. Flatten your breakfast curve.

Corn flakes and other ready cereals are bad for us. To make them tastier, a lot of fructose and corn syrup are added to most cereals available on the market. The early morning rise in glucose levels set us up for a roller coaster ride of sugar fluctuations and cravings. Early morning our body is more susceptible to glucose spikes as we are in a fasting state, i.e., our stomach is empty hence the calories are absorbed quickly. Fruit smoothies and fruit juices also lead to spikes as fructose in fruits is worse than glucose. As I have mentioned above, removing and breaking fibre into small molecules is a bad idea which is what happens in the case of fresh juices and smoothies. A whole fruit eaten after a healthy breakfast is a better option. If you want to have a smoothie, one made with protein powder and veggies is better than a fruit smoothie. Replace very sweet fruits like mangoes, bananas, and pineapples with berries and citrus fruits in your smoothies.

5. All sugars are the same.

Table sugar, honey, agave syrup, icing sugar, brown sugar, Demerara sugar, palm sugar, and maple syrup all comprise glucose and fructose. All sugars are natural as they all come from plants. Sugar is sugar, even in dried fruits which may contain some fibre. Dried fruits are a bit better than table sugar; still fresh fruits are better than dried fruits. The antioxidants in honey don't outweigh the sugar content of honey. Our body needs no sugar from outside, it can make glucose by gluconeogenesis. That means we eat sugar only for pleasure, therefore no matter which sugar you pick, have it in moderation and occasionally.

Artificial sweeteners also spike our insulin levels even though have no calories. They lead to weight gain, an increase in our craving for sweets and are bad for our gut microbiome. Some of the best sweeteners are allulose, monk fruit, stevia, and erythritol. Avoid aspartame, maltitol, sucralose, and xylitol as much as possible.

6. Pick a dessert over a sweet snack.

The post-prandial state lasts for 4 hours after our last bite. The body needs to take care of all the stress of digesting, absorbing and utilising whatever has been consumed. We are in a post-prandial state all day long as we eat till late in the day. We start our day with tea and cookies followed by breakfast, often tea and snack before lunch, tea and snack againat 5-6 pm, and dinnerat 9-10 pm. Therefore, there is a constant glucose and insulin spike in our body, which never gets to utiliseits fat stores. There is no metabolic flexibility where our system shifts to using fat for energy. Therefore, we need to eat large filling meals at longer intervals to get to a fasting state in between meals. Studies have debunked the concept of 6 small meals. Intermittent fasting is another way to achieve metabolic flexibility. Eating a sweet or fruit as a dessert reduces sugar absorption and helps in keeping us full for a longer period.

7. Reach for vinegar before you eat.

One tbsp of vinegar in a tall glass of water before meals or sweets reduces glucose and insulin spikes, curbs cravings and burns fat. Insulin levels also decrease, reducing inflammation and weight gain. This is because the acetic acid in vinegar blocks alpha-amylase, because of which sugar and starch transform slowly into glucose.

For this purpose, any kind of vinegar will do; vinegar being more effective than many thermogenic supplements available on the market. You can mix Isabgol or any other fibre to make it more palatable. Cinnamon is a good option with a pinch of salt as an additive to vinegar. You can ferment veggies in vinegar and eat them as pickles as well.

8. Move after eating.

Our muscles use up the glucose circulating in our system immediately if we become active after meals,which keeps both glucose and insulin levels low. Walking, squatting, spot jogging, or anything to burn the sugar instantly will do. 10-20 minutes of activity is good enough. Working out within one hour of eating slows the spike by 3-30%. Lifting weights or doing triceps dips, the plank pose and the boat pose on a carpet, all are doable exercises if one cannot go out and walk. Exercise before eating too is great. Physical activity any time of the day helps in lowering glucose and insulin spikes. If you want to eat something sweet, then take vinegar before exercising after eating.

9. If you want to snack, snack on savoury rather than sweets.

Savoury things even if made of maida and oil will not cause as much of a glucose spike because the oil will slow down the breaking of the maida(carb) into sugar as compared to a sweet cookie or cake which comes pre-loaded with sugar. An energy spikeafter eating a sugary snack is short-lived and usually leads to hypoglycaemia after one to two hours and makes you hungry again. Nuts, cheese, salted coconut slivers, and crackers with a slice of cheese are better choices for snacks.

10. Put some clothes on your carbs.

This is for the times when you are on go, and have to eat out. Adding protein and oil is like putting clothing on carbs as these two nutrients slow down the absorption of sugar from food. Carry some nuts in your bag, or buy some Greek yoghurt, or eat a salad before wolfing down your burger or pizza. Eating fat before a carb-rich diet decreases the amount of insulin secreted by the pancreas. This helps in avoiding hunger pangs as well. Even fruits should be clothed by eating some fibre, protein and fat beforehand such as nuts, yoghurt, cheese, and nut butters.

I will end here with a word on the whole grains, brown rice myth. These are still grains and are made up of carbs as the main ingredient.

Fats are not our enemy, sugar is. Therefore, choosing the right fat fatfor cooking and for seasoning is important. Use saturated fatslike ghee, butter, and coconut oil for cooking as they are less likely to oxidise on heating than other oils. Olive oil and other monounsaturated fats are good for seasoning. Some bad fats are soya, rapeseed, safflower, corn and rice bran oil. Most seed oils are bad except for flaxseed oil. Excessive fat may not lead to insulin rise but weight gain is a definite side effect, therefore don't go overboard. Frying is always bad as it leads to the oxidation of oil, causing oxidative stress.

As far as alcohol is concerned, beer should never be taken without some cheesy nibbles, olives and salads. Wine is fine, spirits too are ok as they do not cause a spike, and cocktails are a no-no without eating some fibre, protein and fat before taking the first sip.

This article is a summarised version of the book "Glucose Revolution: The Life-changing Power of Balancing Your Blood Sugar" by Jessie Inchauspe. I have added no material on my own. You all can read this book and get better acquainted with the whole physiology behind the advice.

ARTICLE

PCOS IN ADOLESCENT

Dr. Madhu Gupta, MBBS; DGO

Consultant Gynecologist & Chief Trustee of Beautiful Tomorrow

Introduction

PCOS is a common health problem that can affect 6 to18% of all the adolescent girls. It may begin soon after the first menstrual period or develop in 20s or 30 Management in adolescence can mitigate the long-term effects of PCOS.

Pathophysiology

Pathophysiology of PCOS is not clearly delineated. Both genetic and environmental factors contribute to its development. Inheritance is said to be both X linked and autosomal dominant. In most cases, there is a family clustering in female siblings and a positive family history of diabetes. The following postulates have been put forth for the development of PCOS:

- A defect in the insulin receptor gene has been demonstrated in few patients with PCOS, leading to insulin resistance and hyperinsulinemia. Hyperinsulinemia results in hyperandrogenemia and dyslipidemia.
- PCOS is said to be due to disordered hypersensitivity of pituitary to the secretion of gonadotropin-releasing hormone (GnRH). This results in increase in secretion of both luteinizing hormone and androgens from ovaries. This causes oligo-anovulation and hyperandrogenism.
- Obesity is associated with PCOS as it leads to insulin resistance and hyperinsulinemia.
- Adverse intrauterine environment due to maternal undernutrition or anemia may result in neuroendocrine dysregulation in the fetus leading to insulin resistance and intrauterine growth restriction (IUGR) babies. IUGR babies may develop features of PCOS in adolescence, especially if they have rapid weight gain in infancy and childhood

Diagnosis of Pcos in Adolescence

The recently published International Guidelines state that both oligo-anovulation and hyperandrogenism should be present for diagnosing adolescent PCOS and polycystic ovaries on ultrasound are not considered as a diagnostic criterion. Other causes of hyperandrogenism and anovulation have to be excluded before making a diagnosis of PCOS. These include congenital adrenal hyperplasia, androgen secreting tumors, Cushing's syndrome, thyroid dysfunction, and hyperprolactinemia.

Irregular Menstrual Cycles

are because of ovulatory dysfunction. Oligo-anovulation in adolescents is defined according to the gynecological age (number of years after attaining menarche).

Time post menarche	Definition of irregular menstrual cycles
Less than 1 year post menarche	Irregular menstrual cycles are normal pubertal transition
> 1 to < 3 years post menarche	< 21 or > 45 days
> 3 years post menarche	< 21 or > 35 days or < 8 cycles per year
More than 1 year post menarche	> 90 days for any one cycle
	Primary amenorrhoea by age 15 years or > 3 years post thelarche (breast development)

Hyperandrogenism

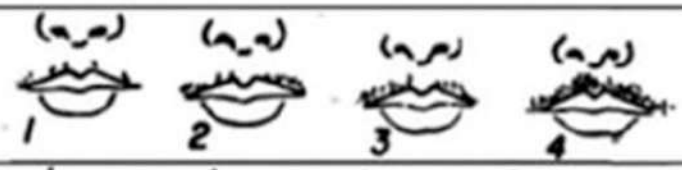
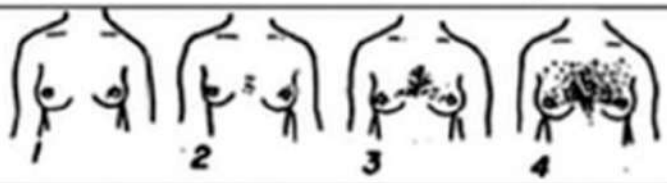
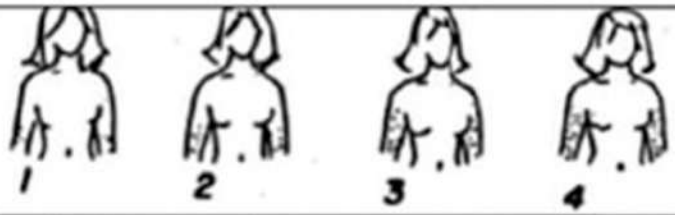
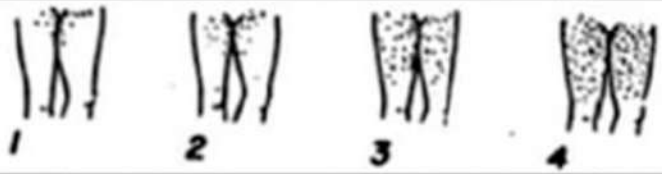
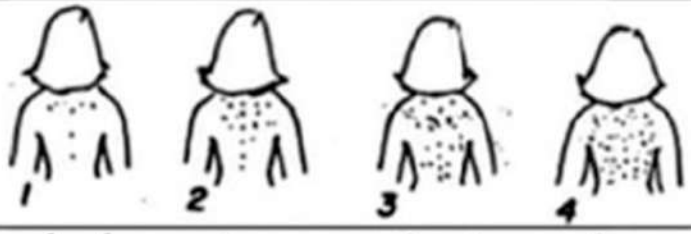
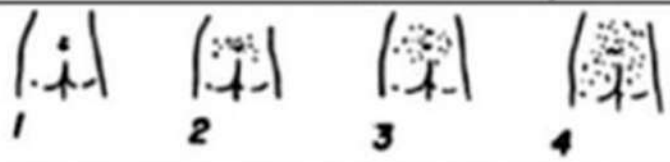
Clinical

Clinical diagnostic criteria for hyperandrogenism include severe acne and hirsutism in adolescents. 10 or more comedonal acnes in early puberty, or moderate to severe acnes during perimenarchial years relate to clinical hyperandrogenism.

Hirsutism is an excessive terminal hair that appears in a male pattern or in androgen areas in women.

The clinical evaluation of hirsutism is done by using modified ferriman-gallwey score. It evaluates hair growth in 9 body areas, upper lip, chin, chest, upper and lower back and thigh. A total score of 8 or higher constitutes hirsutism.

A chart is as follows:

Body Area	Date of exam :		
Upper Lip		Score	
Chin		Score	
Chest		Score	
Upper Abdomen		Score	
Lower Abdomen		Score	
Arms		Score	
Thigh		Score	
Upper Back		Score	
Lower Back		Score	
		TOTAL SCORE	

Biochemical

These tests are done to demonstrate biochemical hyperadrogenmia and to rule out other causes of hyperadrenogenmia and amenorrhea. These are:

- Estimation of increased free and total testosterone. In adolescence, normal levels of testosterone are not well defined; hence, persistent testosterone elevation above adult norms is a reliable reference for hyperandrogenism. Levels above 55 ng/dl are considered as elevated.
- Dehydroepiandrosterone sulphate (DHES) assay to rule out adrenal tumours
- 17-hydroxyprogesterone(17-OHP) to rule out congenital adrenal hyperplasia
- TSH,PROLACTIN,LH,FSH,
- Oral GTT, HBA1C,LFT, lipid profile & pregnancy test
- ALL the hormone levels shouid be done early morning

Follow-up of suspected cases of PCOS in adolescence is recommended and the diagnosis is revisited at 8 years post-menarche.

Pelvic USG for PCOS

Not recommended in diagnosis of PCOS with gynecological age <8years post menarchy because of high multifolicular ovaries and maximum ovarian volume is reached at age 20 years. However, it can be used for diagnosing other possible causes of hyperandrogenism

Clinical Presentation

- Menstrual disorders with hirsutism are the most common clinical presentation of PCOS in adolescence.
- Obesity is seen in 50–70% of adolescents with PCOS. BMI >25 signifies obesity and between 23 and 25 indicates overweight.
- They have severe acne that is refractory to topical treatment and have androgenic alopecia in the form of male pattern frontal balding.
- They usually have body image concerns and may have clinical depression and anxiety.
- PCOS can also present with primary amenorrhea in adolescents.
- Hypertension is often associated with PCOS, obesity, and metabolic syndrome.
- Clinical features of insulin resistance and metabolic syndrome are present, namely, acanthosis nigricans, overweight and hypertension.

Long-Term Effects Of PCOS

Should manage adolescents with signs and symptoms of PCOS early in life. The long-term effects of PCOS are the following:

- Cardiovascular problems: Hypertension, coronary artery disease, hyperlipidemia, and obstructive sleep apnea syndrome.
- Endocrinal problems: Type 2 diabetes, non-alcoholic fatty liver disease, and metabolic syndrome may develop in adolescence or adulthood. Hyperandrogenemia in PCOS may contribute to metabolic syndrome independent of obesity. Hence, lean PCOS is also prone to develop metabolic syndrome.
- Reproductive health problems: Infertility, gestational diabetes, pre-eclamptic toxemia, preterm labor, recurrent miscarriage, and endometrial carcinoma are said to occur with adult PCOS. PCOS contributes to 30–40% of overall infertility in women. Unopposed estrogenic stimulation in PCOS leads to endometrial carcinoma in adulthood.
- Psychosocial issues: Body image problems, depression, anxiety, suicidal behavior, eating disorders, disordered eating, and poor self-esteem are associated with PCOS.

Management

Management of adolescent PCOS is multidisciplinary. Goals of treatment include immediate relief of symptoms and prevention of long-term sequelae

Therapeutic lifestyle change (TLC) and psychosocial support with respectful, and empathetic counseling are the mainstay of therapy. encourage adolescents to eat a balanced wholesome diet and to increase physical activity. Intake of equal amount of carbohydrates and protein is encouraged along with food rich in omega 3 fatty acids such as fish, germinated sprouts, and walnuts. Adolescents with obesity and metabolic syndrome should have food with low glycemic index like whole grains and fiber. They should avoid intake of transfats in the form of processed food, bakery products, and fried food.

Adolescents are counseled regarding benefits of regular moderate-to-severe intensity aerobic exercise for a minimum of 60 min/day and muscle and bone strengthening exercise at least 3 days in a week. Fun activities such as cycling, outdoor group play, tennis, badminton, and swimming are encouraged. Sedentary activities to be limited weight reduction of even 5% is known to result in spontaneous resumption of menstrual cycles and lower androgen levels.

Life skills, such as, stress management; relaxation techniques (yoga, meditation,).

Pharmacotherapy of PCOS includes drugs for the management of metabolic syndrome, Type 2 diabetes mellitus, menstrual irregularities, hirsutism, and acne. Metformin can be used if there is evidence of overweight, metabolic syndrome, Type 2 diabetes mellitus, and insulin resistance. The initial dose is 500 mg OD and can be increased to 1000 mg in daily divided doses. Side effects of metformin are nausea, vomiting, and dyspepsia.

Combination oral contraceptives (COC) containing ethinyl estradiol (at lowest effective dose 20–30 μg) and desogestrel/norethisterone are used for 6–12 cycles to regularize menstrual cycles, to decrease hirsutism, and to prevent the development of endometrial carcinoma. COC can cause thromboembolic phenomena and their use is restricted in adolescents with hyperlipidemia and hypertension. Cyclical progesterone in the form of medroxyprogesterone acetate 10 mg OD is an alternative to COC in adolescents who do not have hirsutism.

Antiandrogens like spironolactone 50–100 mg BD may be used for the management of hirsutism. Minocycline 50 mg OD is used for the treatment of severe acne. It may require therapy with retinoic acid compounds under the supervision of a dermatologist. Cosmetic procedures such as epilation, bleaching, waxing, chemical depilatory creams, electrolysis, laser could also be used for managing hirsutism.

Regular follow-up of adolescent PCOS is essential to mitigate immediate health problems and long-term sequelae. Frequent health visits at 1–2 months interval are recommended until menstrual regularity and emotional well-being are attained. Annual health checkups until adulthood are essential. The diagnosis is revisited after 8 years of menarche Women with a confirmed diagnosis of PCOS would require regular health checkups and screening for cardiovascular issues, metabolic problems, and endometrial cancer over the entire life

ARTICLE

HEMOLYTIC DISEASE OF NEWBORN

Dr. Archana Sharma

Senior Gynaecologist

Introduction and the magnitude of problem in India

Hemolytic disease of the fetus and newborn (HDFN) and the need for anti-Rh(D) immunoglobulin

During pregnancy, rhesus D (Rh) D-negative women who carry an Rh D-positive fetus are at risk of being sensitized to produce immune anti-D antibodies following a feto-maternal hemorrhage (FMH), leading to hemolytic disease of the fetus and newborn (HDFN). HDFN induces fetal anemia with increased risks of fetal death, severe neonatal hyperbilirubinemia, and kernicterus.

According to a recent systematic study by Bhutani et al., there are 3.7 lakh cases of Rh hemolytic disorder worldwide each year. India is responsible for about 56,672 of these years.3 Furthermore, a hospital-based study reported an overall incidence of Rh alloimmunization to be nearly 1.3% in north Indian women during the antenatal period. The Rh alloimmunization rate was 10.7% and 0.12% in Rh-negative and Rh-D positive mothers, respectively.

The incidence of post-pregnancy Rh allo-immunization has decreased to 1%–2% after postpartum anti-D immunoprophylaxis. Evidence shows that the incidence of Rh immunization during pregnancy further reduced from 1.8% to 0.14% with Rh immunoprophylaxis 300 µg of anti-D immunoglobulin at 28 weeks. Researchers revealed that the success rate of Rh immunoprophylaxis was 98.4%–99%.5,6 The prophylaxis with anti-D immunoglobulin effectively reduces the risk of sensitization in the subsequent pregnancy of Rh-negative mother irrespective of the ABO status of mother and baby. A strong immunosuppressive effect is exerted with anti-D immunoglobulin prophylaxis; it results in a primary immunological response upon exposure to the D antigen rather than a secondary one as if the immune system had never come into contact with the D antigen.

However, despite the availability and use of Anti-D, the burden of Rh disease continues. This emphasizes the need for adherence to guidelines and practice points.

Objectives of the guideline

The objective of this guideline is to provide healthcare professionals with practical guidance on the use of anti-D immunoglobulin as immunoprophylaxis to prevent sensitization to the D antigen during pregnancy or at delivery for the prevention of HDFN.

Methods

Details of Expert consensus meeting

Dr. S. Shanthakumari	President
Dr. Basab Mukherjee	Moderator
Dr. Uday Thanawala	Moderator
Dr. Ritu Khanna	Panelist
Dr. Uma Ram	Panelist
Dr. Jaishree Gajaraj	Panelist
Dr. Parag Biniwale	Panelist
Dr. Chinmayee Ratha	Panelist
Dr. Rohan Palshetkar	Clinical Reporter

Blood group and Rh D typing

- Blood Grouping and Rh status of the mother should be done at the first antenatal visit.
- The woman should be informed of her blood group and Rh status and she should be educated with informative leaflets if she is Rh-negative.
- All Rh-negative women should ideally have an indirect coomb's test (ICT) for screening of Rh antibodies at 1st antenatal visit. This is preferably done irrespective of the husband's Rh status to ensure that prior sensitization events are not missed.
- If ICT is negative at the first visit, then ICT should be repeated at 28 weeks.
- However, if a woman has had anti-D immunoglobulin following a sensitizing event or routine antenatal prophylaxis, subsequent ICT is preferably not done. If ICT is done after Anti-D prophylaxis, the results should be interpreted with specialist consultation.
- At the time of delivery for all Rh-negative mothers, documentation of the blood group and Rh status of the neonate MUST be done.

Sensitizing events requiring anti-D prophylaxis

Outside of routine provision, Rh D-negative pregnant women can receive anti-D immunoglobulin during pregnancy when potentially sensitizing events occur. A sensitizing event in Rh D-negative pregnant women leads to developing anti-D antibodies due to maternal-fetal blood exchange.9 The BSCH and RCOG guidelines recommend that anti-D immunoglobulin be administered as soon as possible after a potentially sensitizing event, ideally within 72 hours of the event. If, exceptionally, this deadline has not been met, some protection may be offered if anti-D immunoglobulin is given up to 10 days after the sensitizing event

Potential sensitizing events requiring anti-D prophylaxis[11,12]	
Before 20 weeks of Gestation	
• Significant bleeding during threatened abortion • Spontaneous miscarriage	The recommended dose is 150mcg* (750IU) intramuscularly in the deltoid
• Medical termination of pregnancy • Surgical termination of pregnancy	
• Ectopic pregnancy • Hydatidiform mole** • Chorion villus sampling • Embryo reduction	
• Amniocentesis • Other invasive fetal procedures	
After 20 weeks of Gestation	
• Abruptio placentae • Blunt trauma • Intrauterine fetal demise • External cephalic version • Placenta Previa with bleeding • Invasive fetal procedures	The recommended dose is 300mcg (1500IU) intramuscularly in the deltoid
*In cases where 150mcg dose is not available, then full dose of 300mcg should be given. ** In cases of complete mole, Anti-D need not be given. However, histopathology report may take longer to come, therefore it is better to give the Anti-D prophylaxis to err on the side of caution.	

Special Circumstances

- In women undergoing tubal ligation, Anti-D prophylaxis must be given to prevent isoimmunization. This is important if the woman chooses to have another pregnancy, ligation fails, or she requires future cross-matching of blood products.
- In cases of recurrent sensitizing events, a repeat dose is required if the event is 3 weeks apart.
- If Rh D-positive blood or blood components are transfused, prevention of sensitization protocol should be done with the consultation of a hematologist.
- Some women have conflicting Rh status reports or have weak Anti-D. Such women are best discussed with a hematologist or considered Rh-negative and treated with Anti-D immunoglobulin.
- In women in whom there is a contraindication to an intramuscular (IM) injection (thrombo-cytopenia, blood dyscrasias), appropriate IV preparation of the Anti-D immunoglobulin can be used with hematologist consultation.

Quantifying FMH

During sensitization events in the first trimester, less than 4 ml of FMH is expected. At the time of delivery, FMH is usually less than 10ml.

Particular circumstances may increase FMH volume, such as manual removal of the placenta, lower segment cesarean section (LSCS), multiple pregnancies, intrauterine uterine fetal demise, and abruptio placenta. Ideally, in these cases, FMH testing should be done using Kleihauer Betke or flow cytometry. Since most units may not have facilities to measure FMH, 300mcg is expected to reasonably cover the excess FMH. In case the clinician suspects larger FMH, it would be prudent to consult with a hematologist to decide the dose.

Routine Antenatal Anti-D Prophylaxis (RAADP)

Rh-negative women may have silent bleeds in the 3rd trimester resulting in iso-immunization. To protect against this, antenatal Anti-D prophylaxis was introduced. A single-dose regimen of 300mcg IM in the deltoid is effective, economical, and offers better compliance. A single-dose regimen is equally effective as a two-dose regimen.

RAADP should be given only if the ICT at 28 weeks is negative.

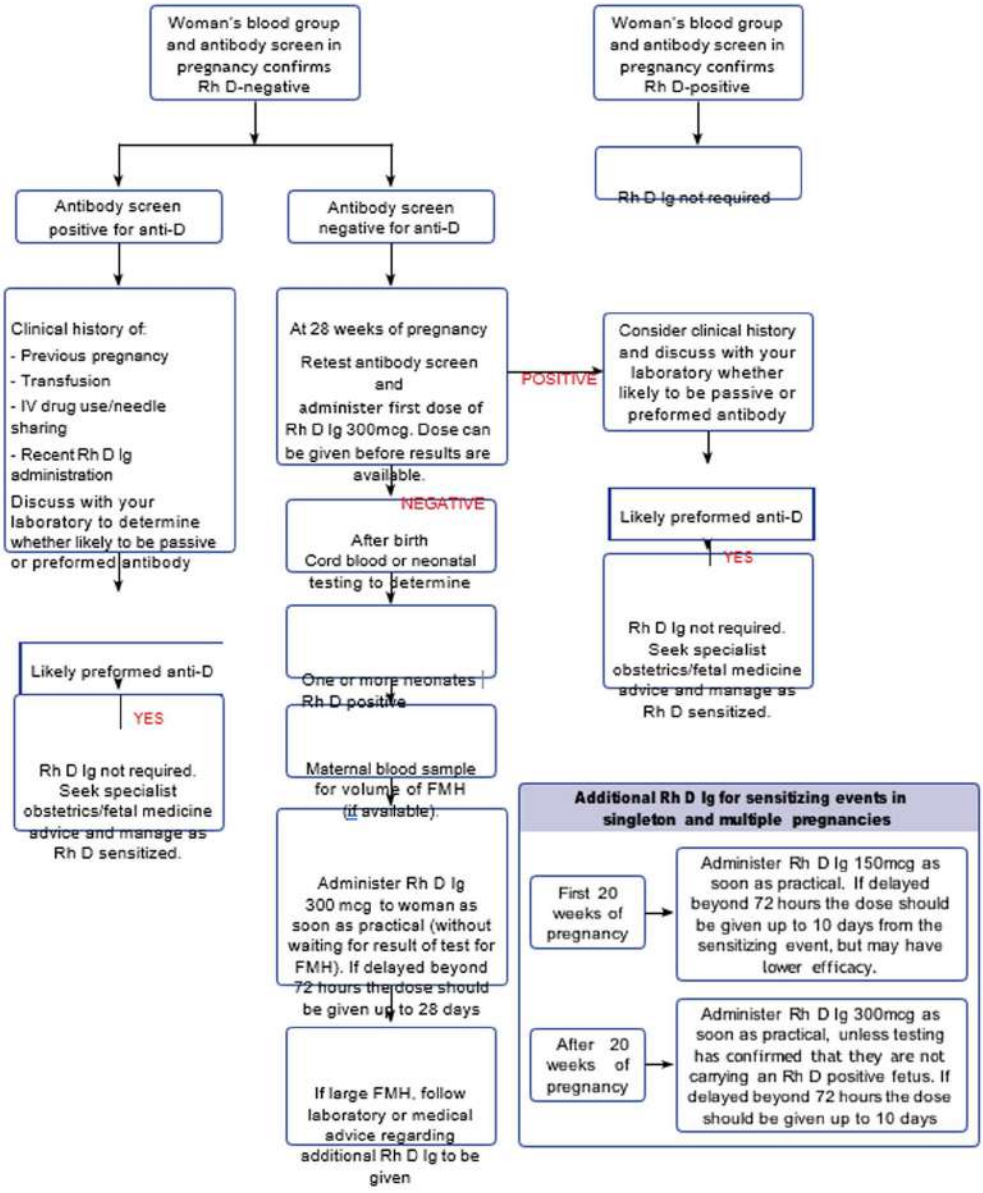
Post-partum anti-Rh (D) immunoglobulin administration

For all Rh-negative mothers, cord blood testing of the baby should be done. If the baby is Rh-positive, 300mcg IM should be administered through deltoid within 72 hours. If anti-D administration is missed during the 72-hour window, it is advisable to give it as soon as possible. Partial to complete benefit has been noted for up to 10 days and some benefit for up to 28 days.

For all Rh-negative mothers, cord blood testing of the baby should be done. If the baby is Rh-positive, 300mcg IM should be administered through deltoid within 72 hours. If anti-D administration is missed during the 72-hour window, it is advisable to give it as soon as possible. Partial to complete benefit has been noted for up to 10 days and some benefit for up to 28 days.

If delivery occurs within 3 weeks of the (RAADP) anti-D administration, routine post-natal prophylaxis can be withheld in the absence of excessive FMH. If quantification of excessive FMH is not possible, the standard post-partum dose may be given.

Flowchart for the prophylactic use of Rh D immunoglobulin in pregnancy care



FMH, fetomaternal haemorrhage; Ig, immunoglobulin; IU, international units; IV, intravenous.
anti-D - refers to circulating antibodies; RHD - refers to genotype; Rh D positive/negative - refers to blood type.
Woman s blood group and antibody screen in pregnancy confirms Rh D positive Rh D Ig not required

Ethical & medicolegal considerations

- Informed verbal consent must be taken before administering the anti-D antenatal. It must be documented in her discharge card and case sheet (preferably with the details of the product).
- In case of refusal, written consent regarding refusal must be documented and signed by the patient.
- There is no evidence to suggest that Anti-D administered to women during pregnancy is harmful to the mother and fetus.

Expert recommendations

- Blood group, Rh status, and ICT must be done at 1st booking. If ICT is negative, it should be repeated at 28 weeks. (Good practice point)
- The dosage of Anti-D before 20 weeks is 150mcg IM deltoid, and post 20 weeks is 300mcg IM deltoid. If 150mcg is not available, then 300mcg should be given. (Good practice point)
- In cases of recurrent sensitizing events, a repeat dose is required only if the event is 3 weeks apart. (Level III C)
- RAADP should be offered to all non-sensitized RhD-negative women. (Grade B, Evidence level 2++)
- Routine administration of 300mcg of Anti-D must be given at 28 weeks in Rh-negative mother after doing ICT. (Good practice point)
- The prophylaxis with anti-D immunoglobulin effectively reduces the risk of sensitization in the subsequent pregnancy irrespectiv of the ABO status of the mother and baby. (LEVEL I C)
- Blood group identification and Rh D typing should be performed on the cord or placental vessel. (LEVEL I C)
- Maternal administration of anti-D prophylaxis within 72 hours of delivery with an Rh D-positive newborn, unless already sensitized. (LEVEL I C)

Level	Type of evidence[14]
I	Evidence obtained from at least one properly designed randomized controlled trial.
II-1	Evidence obtained from well-designed controlled trials without randomization.
II-2	Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.
II-3	Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.
III	Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.
Level	**Grade of evidence**
Level-A	Recommendations are based on good and consistent scientific evidence.

Level-B	Recommendations are based on limited or inconsistent scientific evidence.
Level-C	Recommendations are based primarily on consensus and expert opinion

Grade B[15]	**Level of Evidence: 2^{++}**
• A body of evidence that includes studies rated as 2^{++}, is directly applicable to the target population and demonstrates overall consistency of results, **or** • Extrapolated evidence from studies rated as 1^{++} or 1^{+}	• High quality systematic reviews of case-control or cohort studies • High quality case-control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal

ARTICLE

Interstitial Cystitis

Dr Manisha Gupta , Professor & Head, Department of OBGY

Santosh Medical college & Hospital

Introduction

Interstitial cystitis is a chronic condition causing bladder pressure, bladder pain and sometimes pelvic pain. The pain ranges from mild discomfort to severe pain.

With interstitial cystitis, there is a need to urinate more often and with smaller volumes of urine than most people. Interstitial cystitis most often affects women and can have a long-lasting impact on quality of life. Although there's no cure, medications and other therapies may offer relief.

Symptoms

The signs and symptoms of interstitial cystitis vary from person to person. and include:

- Pelvic pain or between the vagina and anus in women
- Chronic pelvic pain
- A persistent, urgent need to urinate
- Frequent urination, often of small amounts, throughout the day and night (up to 60 times a day)
- Pain or discomfort while the bladder fills and relief after urinating
- Pain during sex

Although signs and symptoms of interstitial cystitis may resemble those of a chronic urinary tract infection, there's usually no infection. However, symptoms may worsen if a person with interstitial cystitis gets a urinary tract infection.

Causes

The exact cause of interstitial cystitis isn't known, but it's likely that many factors contribute. For instance, people with interstitial cystitis may also have a defect in epithelium of the bladder allowing toxic substances in urine to irritate the bladder wall.

Risk factors

These factors are associated with a higher risk of interstitial cystitis:

- Sex. Women are diagnosed with interstitial cystitis more often than men
- Age. Most people with interstitial cystitis are diagnosed during their 30s or older.
- Having a chronic pain disorder. Interstitial cystitis may be associated with other chronic pain disorder, such as irritable bowel syndrome or fibromyalgia.

Diagnosis

Diagnosis of interstitial cystitis might include:

- **Medical history and bladder diary.**
- **Pelvic exam.**
- **Urine test.** A sample of your urine is analyzed for signs of a urinary tract infection.
- **Cystoscopy.**
- **Biopsy.** This is to check for bladder cancer and other rare causes of bladder pain.
- **Urine Cytology.**
- **Potassium sensitivity test.** Two solutions — water and potassium chloride are instilled into the bladder, one at a time. The patient is asked to rate on a scale of 0 to 5 the pain and urgency after each solution is instilled. If there is noticeably more pain or urgency with the potassium solution than with the water, the diagnosis is interstitial cystitis

Complications

Interstitial cystitis can result in a number of complications, including:

- **Reduced bladder capacity.** Interstitial cystitis can cause stiffening of the bladder wall, which allows the bladder to hold less urine.
- **Lower quality of life.** Frequent urination and pain may interfere with social activities, work and other activities of daily life.
- **Sexual intimacy problems.** Frequent urination and pain may strain personal relationships, and sexual intimacy may suffer.
- **Emotional troubles.** The chronic pain and interrupted sleep associated with interstitial cystitis may cause emotional stress and can lead to depression.

Treatment

No simple treatment eliminates the signs and symptoms of interstitial cystitis, and no one treatment works for everyone. Various treatments or combinations of treatments may have to be tried before the symptoms may be relieved.

Physical therapy

Working with a physical therapist may relieve pelvic pain associated with muscle tenderness, restrictive connective tissue or muscle abnormalities in your pelvic floor.

Oral medications

Certain medicines that may improve signs and symptoms of interstitial cystitis:

- **Nonsteroidal anti-inflammatory drugs,** such as ibuprofen or naproxen sodium to relieve pain.
- **Tricyclic antidepressants,** such as amitriptyline or imipramine to help relax your bladder and block pain.
- **Antihistamines,** such as loratadine which may reduce urinary urgency and frequency and relieve other symptoms.
- **Pentosan polysulfate sodium (Elmiron),** which is approved by the Food and Drug Administration specifically for treating interstitial cystitis. How it works is unknown, but it may restore the inner surface of the bladder, which protects the bladder wall from substances in urine that could irritate it. It may take two to four months before the pain is relieved and up to six months to experience a decrease in urinary frequency.

Nerve stimulation

Nerve stimulation techniques include:

- **Transcutaneous electrical nerve stimulation (TENS).** With TENS, mild electrical pulses relieve pelvic pain and, in some cases, reduce urinary frequency. TENS may increase blood flow to the bladder. This may strengthen the muscles that help control the bladder or trigger the release of substances that block pain.
- **Sacral nerve stimulation.** Sacral nerves are a primary link between the spinal cord and nerves in your bladder. Stimulating these nerves may reduce urinary urgency associated with interstitial cystitis.

Bladder distention

Some people notice a temporary improvement in symptoms after cystoscopy with bladder distention. Bladder distention is the stretching of the bladder with water. If you have long-term improvement, the procedure may be repeated.

Botulinum toxin A (Botox) may be injected into the bladder wall during bladder distention. But, this treatment option could lead to not being able to empty your bladder completely when you urinate. You may need to self-catheterize — be able to insert a tube into your own bladder to drain urine — after this treatment.

Another approach to bladder instillation uses a solution containing the medications lidocaine, sodium bicarbonate, and either pentosan or heparin.

Surgery

Doctors rarely use surgery to treat interstitial cystitis because removing the bladder doesn't relieve pain and can lead to other complications.

People with severe pain or those whose bladders can hold only very small volumes of urine are possible candidates for surgery, but usually only after other treatments fail and symptoms affect quality of life. Surgical options include:

- **Fulguration.** This minimally invasive method involves insertion of instruments through the urethra to burn off ulcers that may be present with interstitial cystitis.
- **Resection.** This is another minimally invasive method that involves insertion of instruments through the urethra to cut around any ulcers.
- **Bladder augmentation.** In this procedure, a surgeon increases the capacity of your bladder by putting a patch of intestine on the bladder. However, this is performed only in very specific and rare instances. The procedure doesn't eliminate pain and some people need to empty their bladders with a catheter many times a day.


Drolute


Drolute

सैर कर दुनिया की गाफलि
जदिगानी फरि कहाँ ।
ज़दिगी भी गर रही तो
नौजवानी फरि कहाँ ।।

मगर Gogsians तो बूढ़े होते ही नही। हर साल नई टीम नए आइडयिाज़ लेकर आती है, चाहे वो मोज मस्ती के हो या पढ़ाई के।
टीम 22-23 "अक्षरा" तो लाई एक जबरदस्त धमाकेदार आइडिया "रोड इनर"
"बोझ सबको लगे पढ़ाई, मन कभी भी टकि ना पाये।
लेक्चर सुनो बैठकर पूरा, अगले ही पल को उड़ जाए।

टीम अक्षरा ने इस प्रॉब्लम को पहचाना और प्लान कयिा एक इंटरेस्टगि वे ऑफ डस्किशन ऑन द टॉपकि "रकिरंट प्रेग्नेसी लॉस"
तो सुबह सुबह। ब्लू ड्रेस कोड मे आँखो को ठंडक पहुँचाती GOGSIANS पहुँच गई मीटगि पॉइंट हदिी भवन पर। शुरू हुआ फोटो सेशन। क्योंकि बिना photos के तो कोई CME पूरी होती ही नही। और इस फोटो सेशन मे हमारी IDEA QEEN के फोटो आइडयिास आग मे घी डाल देते है।
चल पड़ी हमारी बाथरूम वाली लग्जरी बस (That was a big attraction)। बस मे खाते पीते, गाते बजाते, डाँस करते और शोर मचाने के बीच में ही टॉपकि डस्किशन शुरू हो गया। सबके पास था अपने - अपने पेशेंट्स का एक्सपीरयिंस और ढेर सारा ज्ञान। जब तक डेस्टनिेशन "अपनो घर" पर पहुंचे तब तक डस्किशन ऑलमोस्ट कंप्लीट हो गया था। मगर मस्ती का आलम। पूरे जोश मे था। 2 साल के लॉक डाउन के बाद पजिरे से नकिले हम पंछी। उन चारो तरफ फैली हरयिाली। बड़े- बड़े पेड़ो पर बने बया चड़ियिों के घोसले और उन घोसलो मे शोर मचाती चड़ियिों की कलरव मै मानो पागल से हो गए। फरि थोड़ा सा रलिैक्सेशन खाना, पीना और टॉपकि को समराइज कयिा हमारी अपनी "डॉक्टर अल्पना अग्रवाल" ने। पता ही नही चला कब बातो ही बातो मे हमारा इतना ज्ञान वर्धन हो गया। water games मे तो GOGSIANS ने पानी मे ही आग लगा दी। खूब ऊंची स्लाइड्स पर फसिलना, म्यूजकि और डांस। उन सब मे तो इन GOGSIANS की उम्र का पता ही नही चलता।

वाटर गेम्स के बाद फरि से खाना पीना और ब्राइटनेस फैलाता, "यलो ड्रेस कोड" फोटो सेशन तो ऐसा लग रहा था जैसे कोई शूटगि चल रही हो।

मगर साहब मन कहाँ भरता है वहाँ से चले 32 माइलस्टोन्स। एक अलग ही माहौल। ऐसा लगा की वदिेश मे घूम रहे है।

ऐसे रोडनिार अगर साल मे दो बार भी हो जाए, तो हर कोई अपने एक्सपरियिंस शेयर कर पाए। ये एक नया ही तरीका है। दूसरे के एक्सपीरयिंस से नये- नये प्रैक्टकिल पॉइंट सीखने का। बस चाहए डॉक्टर रतिु जैन जैसा कोई लीडर। जो टॉपक्स डसिाइड करके रोडनिार प्लान कर सके और एक सुपर ब्रेन जो लेटेस्ट गाइडलाइन्स के आधार पर डस्किशन की फाइनल समरी बता सके।

3 cheers to team Akshra.

-Dr. Aruna Agarwal
Senior Gynecologist

दुनिया में रह रहे हो, यारी रखो सभी से,
समझो न फ़र्क कुछ भी, मट्टिी हो या हो सोना।
पर, एहतियात इतनी लाज़मि है मन में रखना,
खुद्दार बन के रहना, पहचान को न खोना।।

चेहरे के दाग़ फरि भी, सह लेंगे मलि के हम-तुम,
पर, दलि कभी भी अपना दाग़दार न करना।
माना कि बोझ सबके कांधों पे है बहुत, पर
देता सुकूं किसी का, कांधे पे सर को रखना।।

खुद्दारियों को अपनी, मत भूलना कभी भी,
अपने उसूल है जो, उनसे भटक न जाना।
गर हो जुनून दलि में, मंज़लि मलिेगी खुद ही,
हम्मित के साथ डट कर, अपने क़दम बढ़ाना।।

तुम आज़मा रहे या हम आज़मा रहे है।
किसिने किसि मनाया, कुछ भी न फ़र्क पड़ता,
हमको यही तसल्ली, हम पास आ गए है।
जब प्यार है हमारा,फरि सोचना भला क्या ।।

-डॉ सरला मेहता 'सरल'

होने न हमसे पाए,बेइज़्ज़ती किसी की,
माना कि फर्ज़ अपनी ऊंची ही शान रखना।
मलि जाए दलि जहां में, या ना मलि जहां में,
लाज़मि है फरि भी तुमको, मीठी ज़ुबान रखना।।

रखना बना के सबसे, नफ़रत न हो किसी से,
क्या जाने कब कहां पर, बन जाए इक ठकिाना।
सच बोलने की हम्मित, रखना सभी के आगे,
अल्फाज़ से ही अपने, दलि में जगह बनाना।।

उल्फ़त के रास्तों पर, चलना नही है आसां,
नाज़ुक बहुत है रश्ति, ज़रा सोच कर नभिाना।
रखना खयाल इसका, टूटे न दलि किसी का,
जो रूठ जाएं,उनको, आसां नही मनाना।।

गहरा लंबा श्वास

जीवन में योग का महत्व सर्ववदिति है।

आज हम योग में गहरी लंबे श्वास और उसके महत्व को समझेंगे ।
हम प्रतदिनि योगाभ्यास में सर्वप्रथम आसन करते है ,तत्पश्चात प्राणायाम करते है । गहरा लंबा श्वास ,प्राणायाम का आधार है।

गहरे लंबे श्वासों का अभ्यास करने से हमारा respiratory system तो स्वस्थ होता ही है , साथ में digestive, excretory, circulatory, nervous, musculo- skeletal और endocrine system भी प्रभाव में आते है ।
वधि:- पद्मासन या सुखासन (आलती पालती मार कर) मे बैठें , रीढ़ व गर्दन सीधी ,आंखें कोमलता से बंद, मुख पर प्रसन्नता, दोनों हाथ ज्ञान मुद्रा में, (ज्ञान मुद्रा :- thumb और finger आपस में touch करें और बाकी तीनों उंगलयिां खुली हुई हथेली का पृष्ठ भाग घुटनों पर) श्वास को धीरे-धीरे बाहर नकिालें । अधकि से अधकि श्वास बाहर नकिालने पर पेट की मांसपेशयिों को अंदर की ओर इतना ले जाएं कनिाभि-मूल रीढ़ से लग जाए । अब पेट को ढीला कर के धीरे-धीरे श्वास को कंठ तक भरे । श्वास बाहर नकिालने पर एवं श्वास भरने पर मूलबंध का अभ्यास करें (मूलबंध:- constricting and pulling up of anus) । जब श्वास को बाहर नकिालें तो अंत में पेट की मांसपेशयिों को प्रयास पूर्वक पचिकाएं , पर जब श्वास भरें तो आनंद पूर्वक भरें ,इसी तरह आवृतयिों को कुछ मनिट तक दोहराएं । गहरे लंबे श्वासो के बाद वभिन्नि प्राणयामो का अभ्यास करें ।

" योग करो
रोज करो
फरि मौज करो "

धन्यवाद
डॉ संदीप वार्ष्णेय
President IMA Ghaziabad 2022-23
व
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