

KERALA FEDERATION OF OBSTETRICS & GYNECOLOGY

KFOG JOURNAL ADOLESCENT CENTRIC

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President's message



Dr Ajith S
President, KFOG 2021

Dear Seniors and Friends

I am happy that inspite of these tough COVID times, Dr Suchitra, as the Editor of KFOG, is coming out with her first journal.

The Covid pandemic has had us in its clutches since 2020. Although it showed some sign of relenting initially this year, the second wave has left massive destruction in its wake. Now we have all pinned our hopes on the widespread vaccination to improve the situation.

It is interesting to note that, while we are constantly dealing with the physical effects of COVID-19, the devastating psychological impact of the disease has been sadly overlooked. As it is, mental health is a field which has always been precarious to deal with, even before the advent of the pandemic. Now, more than ever before, we need to address this issue in a dedicated manner. And that is the primary reason why 'Mind your Mind' has been adopted as my Presidential theme for this year.

It is towards this aspect of mental health, that this journal also would help to throw some light. This issue will focus on Adolescent health.

All contributing authors have done a sterling job and Dr Suchitra, the editor & Dr Suma, the sub-editor, have made this journal an interesting read.

I request all of you to use our updated KFOG website for obtaining information on all our activities.

Wishing everyone a safe 2021

With warm regards

Dr Ajith S

Secretary's message



Dr. M Venugopal
Secretary, KFOG

Dear KFOGites,

Warm greetings to you all. I hope you all are staying safe and healthy during this crazy and challenging time. The Pandemic has transformed the way we communicate and stay in touch. We are back to basics and apart from the screen, written articles and books are back with a bang.

I wish to congratulate new editor of KFOG journal, Dr. Suchitra Sudhir and team who have taken a lot of effort to publish this edition. The idea of giving an opportunity to as many as possible to express themselves, is always a winning one.

Happy reading to all because after all, the more we read, the more we learn, the more we learn, the more places we are likely to go.

Dr. Venugopal



Dr VP Paily
Chairperson, CRMD
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FOREWORD

Adolescent health is deeply intertwined with reproductive health. Infact, the most sensitive elements of adolescent health are related to the reproductive organs and their functions. As specialists in reproductive health, the gynaecologists get a closer contact with the adolescents and their parents. And this gives a great opportunity to build trust with them.

This attempt by the KFOG Editor, Suchitra Sudhir brings in many novel concepts in bringing out a journal. She has shared the authorship to different societies, to get involvement of a wide variety of authors. However, the contents are very focused and deal with topics of day today relevance.

Anaemia, Teenage mentality during covid times, PCOS and abdominal masses are health issues encountered by all of us. While the above topics seem to impact more on the girls, the boys are not left out as Dr. Shyju addresses the need for adolescent health education for the boys. Teenage pregnancy of course, is relevant not just for the boys and girls; it is more of a concern for their parents.

All together, we have a compilation of topics that justifies this edition of KFOG journal to be called "adolescent centric".

I congratulate the editor Dr Suchitra Sudhir, as well as all the contributors. I wish pleasant and useful reading to all the KFOG members.

Dr VP Paily



Dr Suchitra Sudhir
Editor, KFOG Journal



FROM EDITOR'S DESK

Dear Teachers and Friends,

At the outset let me thank each of one of you for giving me this pleasant task of being the KFOG journal editor, this year.

Hope you are all keeping fine, in spite of the Covid clouds darkening the horizon. Our regular online sessions and activities help us to keep updated, to serve our patients better and also to keep a positive mindset.

The overall theme for this year's KFOG journal is in conjunction with the Presidential theme for this year, "Mind your Mind." This year, our attempt would be to involve all the societies across Kerala, with dedicated topics for every edition, co-ordinated by an Associate Editor per issue.

1. The First issue is based on the Spring of life, Adolescence. This involves Kasaragod, Cannanore, Calicut and Wayanad Societies with Dr Suma Vishnu (from WOGS) donning the role of the Associate Editor (May, June, July).

2. The Second issue is based on the scorching Summer of Infertility and Pregnancy. This would involve Thrissur, Perinthalmanna societies, along with Palakkad & Vadakara clubs, with

Dr Shyama Devadasan (from TOGS) donning the role of Associate Editor (August, September, October)

3. The Third issue is based on the Autumn of life, Menopause. This would involve Cochin, Kottayam, Alleppey Societies and Angamaly club with Dr Acka Priya Varghese (of KOGS) as the Associate Editor (November, December, January)

4. The Fourth issue involves Trivandrum, Kollam, Adoor and Malanadu societies. It is based on the Wintry subject of Gynec-Oncology with Dr Reena NR (from Kollam) as the Associate Editor.

We are expecting contributions from each one of the Societies and Clubs over the entire year. We would be waiting to hear the fresh, new voices, which in turn would bring in novel ideas and knowledge to us.

At this point, I would like to place on record my gratitude to Dr Shyjus, for all his help and guidance in bringing out this journal on time.

Happy Reading one and all

Dr Suchitra Sudhir





Dr Suma Vishnu
Associate Editor, KFOG, Journal

ASSOCIATE EDITOR'S MESSAGE

Respected seniors and friends,

Hope you all are staying safe and healthy. It's with immense pleasure that we are bringing out the first issue of the KFOG Journal, dealing with Adolescence. I am humbled to don the role of the Associate Editor for this issue.

I take this opportunity to thank and congratulate the strong determination and commitment of our Editor Dr. Suchitra. I also thank our senior members, members of the editorial board and the authors, for their blessings and contributions, which has made the timely release of the first edition, a reality.

Though amidst crisis times, our new team of office bearers have never looked back. I congratulate the President, Secretary and new team of KFOG, for all the innovative activities since the beginning of the year. I believe this will take KFOG to greater heights.

I express my immense happiness to be a part of this edition of KFOG Journal, as an Associate Editor.

Thank you for all the support and encouragement.

Dr. Suma Vishnu



Dr S Sampathkumari
Prof & Head, SMMCH & RI, Chennai
FOGSI VP ELECT 2022

ADOLESCENT ANAEMIA

The most prevalent nutritional problem worldwide is anaemia and is mainly caused due to iron deficiency. Its prevalence is highest among young children and adolescents.

The term adolescence is derived from latin 'adolescere' meaning to grow & to mature. Considered as a transition from childhood to adulthood, the progression from appearance of secondary sexual characteristics to sexual and reproductive maturity is the marked feature of this phase.

The WHO has defined adolescence as the age period between 10 to 19 years of age for both the sexes . There are about 1.2 billion adolescents in the world, which is equal to 1/5th of the world population and their numbers are ever increasing. Of these, 5 Million adolescents are living in developing countries. Indian population which has already crossed the 1 billion mark, has 21% as adolescents. The nutritional and the health needs of adolescents are also more because of the growth spurt and the increase in physical activity in them. Adolescent girls are at high risk for anaemia and malnutrition. Inadequate nutrition during adolescence can have



serious consequences throughout the reproductive years of life and beyond. In India, girls get married and pregnant even before the growth period is over, thus doubling their risk for anaemia. Anaemia results from lack of red blood cells or dysfunctional redblood cells in the body. Red blood cells carry haemoglobin, a protein that carries oxygen throughout the body.

Criteria for anaemia among adolescents was accepted as Haemoglobin value < 12 gm/dl as per WHO recommendations.

Anaemia in adolescents are graded as
Mild Anemia: 11.0 - 11.9 gm% (32%)
Moderate Anemia: 8.0 - 10.9 gm% (43%)
Severe Anemia: < 8.0 gm% (24%)

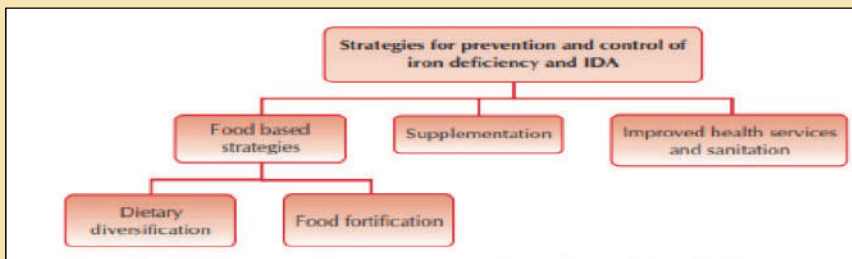
Common causes of Anemia in adolescents

1. Nutritional Anemia:
most commonly Iron deficiency Anemia
2. Non-Nutritional causes of Anemia
 - a) Accelerated increase in requirement of Iron
 - b) Hookworm infestation
 - c) Infections such as Malaria
 - d) Loss of blood as in HMB
 - e) Bleeding disorders





Age	Gender	RDA mg/day
10-12 years	Boys	21
	Girls	27
13-15 years	Boys	32
	Girls	27
16-17 years	Boys	28
	Girls	26



Effects of Anemia in Adolescents

Attentiveness, memory and performance in school deteriorates.

Affects their attendance percentage

Affects the physical growth and onset of menarche.

Affects their immune status and increases infectious morbidity.

Affects their physical capacity and work.

When a girl is 12 years of age, her Hb should ideally be 12 gms.

If not controlled in Adolescence, she would reach her pregnancy, in an anemic state. This would lead to a significant increase in MMR. Even minimal bleeding before or after delivery would deteriorate her condition. Thromboembolic complications, Pre-eclampsia, Low birth weight babies and fetal morbidity and mortality rates are all increased.

Prevention of Anemia

1. Eat Iron rich foods – Fruits (citrus fruits contain Vit C too), Vegetables, Greens, Jaggery, Fish
2. Wash hands before and after eating
3. Avoid walking barefoot to prevent worm infestation
4. Clean surroundings & Use of Mosquito nets to prevent Malaria

5. Avoid eating foods kept in open to prevent GI infections

6. Wash hands before and after defaecation

7. Deworming once every 6 months

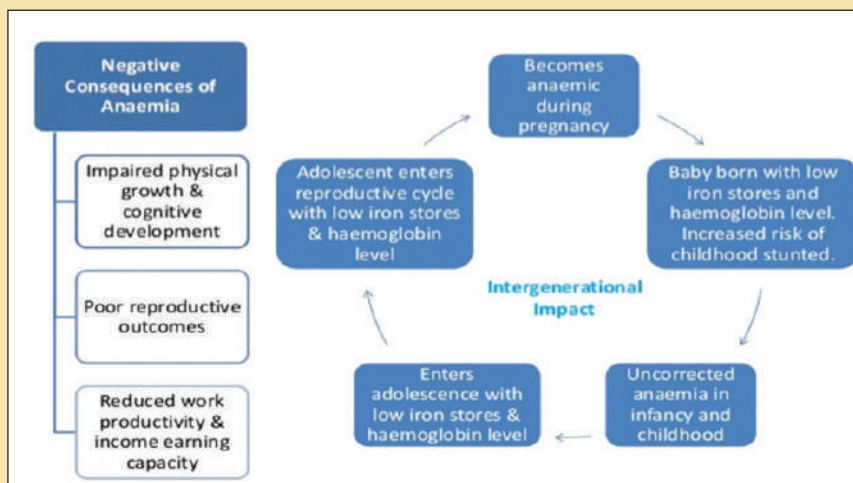
8. Screening for Haemoglobinopathies

9. Assessment of Menstrual blood loss

Treatment of HMB in Adolescents

- Excess bleeding at this age is primarily Anovulatory bleeding
- Rule out Thyroid dysfunction, Hyper-prolactinemia, Genital TB, Bleeding disorders
- If Hb more than 10 & bleeding not interfering with day to day activities- Reassurance & Counselling, Prostaglandin inhibitors
- Hb less than 10 & No active bleeding:
 1. OC Pills (with atleast 30 mcg of Estrogen, Iron supplements) OR
 2. Progestins (MPA 5-10 mg daily, or 10-14 days starting from Day 14)
- Drospirenone is preferred, in overweight girls and in girls with hyperandrogenism
- Hb less than 10, with active bleeding: IV Estrogen 25mg followed by OC pill and correction of anemia.

IMPLICATIONS OF ANAEMIA IN ADOLESCENT



Iron and Folic Acid Supplementation in India

Group	Strategy for IFA supplementation
Children (0-5 years)	20 mg elemental iron and 100 mcg folic acid for 100 days Age - appropriate deworming
Children (6-10 years)	30 mg elemental iron and 250 mcg folic acid for 100 days
Adolescent girls (10-19 years)	Weekly dose of 100 mg elemental iron and 500 mcg of folic acid with bi-annual deworming

Albendazole Biannual De-worming		
Age	Dose (Albendazole 400 mg tablet)	Other instructions for administration
1-2 years	Half tablet	For children aged 1-3 years, the tablet should be broken and crushed between two spoons, then safe water added to help administer the drug
2 years and above	One tablet	

Management of Anemia in children 10 years – 19 years		
Level of Hb	Treatment	Follow-up
Mild anemia (11.0-11.9 g/dl)	60 mg of elemental iron daily for 3 months	Hb estimation after 3 months to document Hb >12.0 g/dl
Moderate Anemia (8.0-10.9g/dl)	60 mg of elemental iron daily for 3 months	Hb estimation after 2 months to document Hb >12.0 g/dl
Severe Anemia (<8.0g/dl)	Blood transfusion @ 10ml/kg if packed cells or @ 20ml/kg if whole blood over 3-4 hours *For all children with Hbs<4g/dl *Children with Hb 4-6g/dl with dehydration, shock, impaired consciousness, heart failure, deep and laboured breathing, very high parasitemia	

Conclusion

1. Counselling about Iron rich diet, is the first line of anemia management in adolescents
2. General hygiene and menstrual hygiene is a must to be followed
3. Deworming every 6 months
4. Anaemia correction depending on severity with oral iron/ injectable iron/blood transfusion





THE CHANGING MENTALITY OF ADOLESCENTS IN COVID TIMES (MIND THE MIND OF TEENAGERS)



Dr Cynthia Unnikrishnan

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The impact of covid times on the minds of the adolescents has been enormous. Restriction of mobility, strenuous academic online classes, limited interaction with friends and classmates, the burden of board exams and competitive exams & apprehension about career opportunities have all been the issues of this crisis phase. All of them have contributed to immense anxiety disturbing their tender minds. Other psychosocial issues have been health related, financial with parents losing their jobs and work load related stressors.

They got confused as there was a loss of routine, loss of predictability in their lives, loss of control over things happening around, loss of learning opportunities, and loss of peer interaction. Many of

them dearly missed the warmth of their friendship in schools, which even threw them to depression.

Being in quarantine or isolation, brought in the fear of contracting illness, of losing a family member and most significantly, the fear of dying from COVID. The grief caused by parental separation also made these children more prone to get mentally unsettled.

There are certain factors that can positively help the adolescent mind, to cope with these unprecedented situations. These include bonding within family, financial background and their mental health. Motivating your children and developing a positive attitude in them can go a long way in helping them

overcome, not just this phase but also more difficult ones, in the future.

The pandemic has struck its harshest blow on the poor and underprivileged, resulting in added frustration. Lack of gadgets and network connectivity for online classes, the tense environment at home due to financial crisis and lack of privacy were serious issues. But the worst of all has been, domestic abuse.

Social media infact, has played a very helpful role in bridging the gaps in communication between adolescents, in these covid times. But this also brought in an important concern, internet addiction. The resultant increase in screen time led to health issues like headaches, irritability, lack of interest in academic activities and gaps in parent child relationships.

In pre-covid times, teens were usually asked to put off their mobiles and laptops, but now, it is just the opposite...open the laptop, get set with your mobiles, see what the teacher has sent in her voice clip etc. Both kids and parents have become tech savvy and are vying with each other to master its various applications. This may lead to two types of reactions...parents and kids becoming more friendly, or they become competitive and hostile. Internet addiction and exploring unsavoury porn sites, films and videos have also become possible, for both parties. As we have heard, some online games were highly addictive and have even led to suicidal attempts in vulnerable kids.

There are 2 major concerns to be addressed, in this age group. One is the long term influence of Covid in their academic and psychological development, and secondly the increase in psychiatric symptoms in vulnerable children.

Teenage suicides across the globe have increased by almost 15% and there has been 173 suicides in Kerala alone, amongst teenage children between March 2020 to October 2020. Underlying depressive illness also contributed, which were often missed by their parents. Sudden changes in their mood, little interest in texting or video chatting, loss of interest in hobbies, loss of appetite and sleep, drop in academic effort, talking about death or suicide...parents and teachers need to be wary of these signs. Mental health help lines should be made available to these adolescents and their parents.

However, not all is that bleak. Adolescents do think that the covid times are memorable, having brought everyone to a path of realisation. In most houses, parent child relationships have deepened, as they have started to see more of each other, which has inturn made them, the best friends. Due to the adolescent mind's amazing ability to learn new things, this phase has seen a surge of extracurricular activities in them, including dance, music & cooking, and even environment friendly initiatives like recycling

Role of parents

Covid times could also be thought of as a Godsend opportunity to foster a great parent-child relationship or to bridge any gaps that existed. Adolescents don't open up easily. Breaking the ice could be done by doing household chores together like cooking new dishes, doing book reviews or may be by going for a walk with them.

Parents could initiate a conversation about something their kids would like. Even a question like "Are you ok?" would be useful. Acknowledging their emotions, understanding them with empathy, and listening patiently without interrupting,

goes a long way in strengthening the bond. The Motto should be listen, comfort and reassure. Unconditional acceptance of both their capabilities and inabilities, could be extremely comforting to your children.

Create a consistent routine for the adolescent. Ensure good sleep and adequate nutrition. Go for individualised plans which should include 6 to 8 hrs of sleep, limited screen time and some free time to enjoy their hobbies and exercise. Create a diet which limits junk food intake and includes lots of water. Encourage them to communicate with their friends so that they can stay connected. Respect their need for privacy. Discuss with them about the benefits and risks of online media and help them in digital decision making, particularly about the time limits and about avoiding stranger chats online.

Parents can rediscover the culture of conversation with children by spending quality time with them. Even 20 to 30 minutes of undisturbed conversation would be enough, with the electronic gadgets switched off. Involving them in decision making increases their self confidence and helps them to bond better. Indoor games and activities

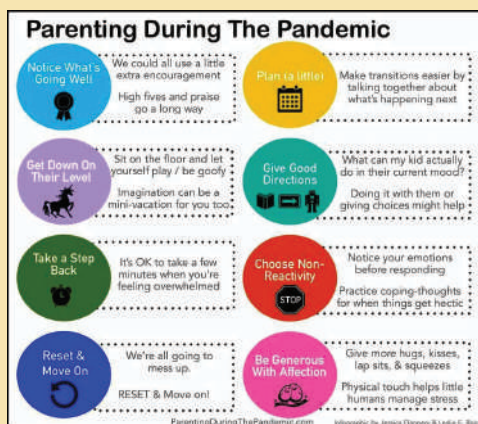
involving the whole family can make these times memorable, to which children will look forward to. Communication with your child about covid disease should be in simple understandable language and in the most reassuring way. Preventive aspects should be stressed upon. Unfiltered 24x7 breaking news from media is best avoided.


This covid era would be remembered as an unforgettable era in the life of the adolescent. Only a strong and positive attitude can help them steer their minds through these troubled waters.

As someone rightly said, "When you can't control what's happening, challenge yourself to control the way you respond" Let us help them do that.

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ABDOMINAL MASS IN AN ADOLESCENT GIRL: WHAT CAN IT BE ?



Dr Usha Menon
MD DGO,
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KIMS Hospital, Kasaragode

An agitated Mrs. Salomi rushed into my morning clinic with her 16 year old teenage daughter. I calmed her down and asked her why had they come. She had found that her daughter's tummy was bulging and it was becoming increasingly difficult for her to fit into her hugging jeans. "Doctor, is it a pregnancy ?" The anxious mother was getting paranoid. I counseled her about the causes for an abdominal mass in an adolescent girl, took a detailed history, did a clinical examination, sent for laboratory tests and an ultrasound. Imaging showed an ovarian cyst with features suggestive of a teratoma. The girl was taken up for a laparoscopic surgery. The histopathology report confirmed a benign ovarian tumour.

The clinician's response to a pelvic or abdominal mass varies depending on the girl's pubertal status, since the likelihood of functional masses increases after her menarche. The risk of malignant neoplasms is lower among adolescents, in comparison to more younger children. Most common causes of abdominal mass in an adolescent girl are summarized here:

Ovarian masses

- Epithelial neoplasms occur with increasing frequency with age and are less common in adolescence
- Germ cell tumors are most common in the first decade of life but occur less frequently during adolescence.
- Mature cystic teratoma is the most

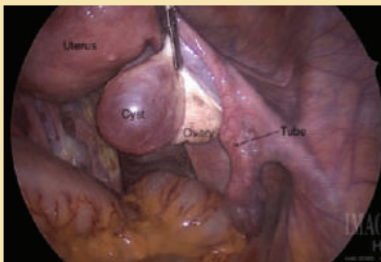


frequent neoplastic tumor of children and adolescents, accounting for more than one half of ovarian neoplasms in women younger than 20 years of age.

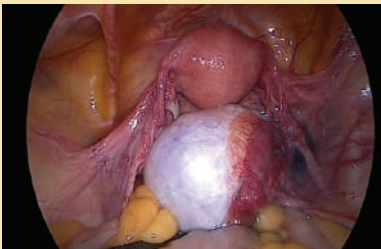
- Neoplasia from dysgenetic gonads could also be seen
- Malignant transformation is more likely in patients with a 'Y' chromosome

Functional ovarian cysts occur frequently in adolescence. They may be an incidental finding on examination or may present with pain caused by torsion, haemorrhage or rupture.

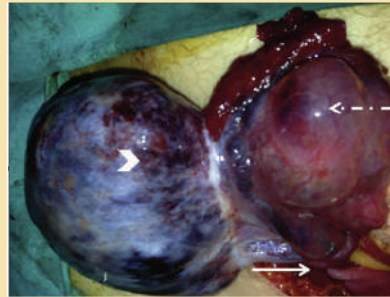
- Endometriosis is less common during teenage years than in adulthood. Endometriosis can also occur with obstructive genital anomalies, presumably as a result of retrograde menstruation.



Functional ovarian cyst in a young girl



Ovarian cyst in a 15 year old girl



Torsion of ovarian cyst in a 11 year old girl

Uterine Masses

- Uterine masses are rare in adolescence
- Uterine Leiomyomas are not commonly seen in this age group
- Obstructive utero vaginal anomalies can be seen, from imperforate hymen to transverse vaginal septa, to vaginal agenesis with a normal uterus and functional endometrium, vaginal duplication with obstructing longitudinal septa, and obstructed uterine horns.
- Patients may present with cyclical pain, amenorrhea, vaginal discharge, or an abdominal, pelvic or vaginal mass.
- A hematocolpos, hematometra, or both will frequently be present and the resulting mass can be quite large.

Inflammatory masses

This could be due to a pelvic inflammatory disease, especially if the girl is sexually active. The diagnosis of PID is mainly clinical, based on the presence of lower abdominal pain, pelvic and adnexal tenderness, cervical motion tenderness, a mucopurulent discharge, and fever, increased WBC count or ESR. Inflammatory masses may consist of a tubo-ovarian complex (a mass consisting of matted bowel, tube and ovary), tuboovarian abscess (a mass consisting primarily of an abscess cavity

within an anatomically defined structure such as the ovary), pyosalpinx or chronic hydrosalpinx.

Pregnancy

Clinician should have a high index of suspicion to diagnose a pregnancy in a teenage girl. Adolescents may be more likely than adults to deny the possibility of a pregnancy, because of the anxiety of parents or peers getting to know of it or unfamiliarity with menstrual cycles and information about fertility. Urinary or serum beta HCG, should be done to rule out intrauterine or an ectopic pregnancy.

- Paraovarian cysts
- Non gynaecological masses from bowel, kidney or retroperitoneum, are also seen as an abdominal and pelvic mass in a teenage girl.

Diagnosis

- History and clinical examination are critical in the diagnosis of a pelvic mass especially the history pertaining to menstruation and sexual activity.
- Laboratory tests should include a pregnancy test (regardless of the stated sexual activity) and a complete blood count (inflammatory masses). Tumor markers like alpha fetoprotein and HCG are secreted by germ cell tumors and can be useful in pre-operative diagnosis as well as follow up.
- Ultrasound of abdomen and pelvis mostly establishes the diagnosis
- If Ultrasound is inconclusive, a CT or MRI may be done especially in cases of utero vaginal malformation.

Management

Depends upon the type of mass and clinical symptoms. Asymptomatic unilocular cystic masses, especially functional cysts, are best managed conservatively with or without hormonal

treatment, because the likelihood of malignancy is quite low.

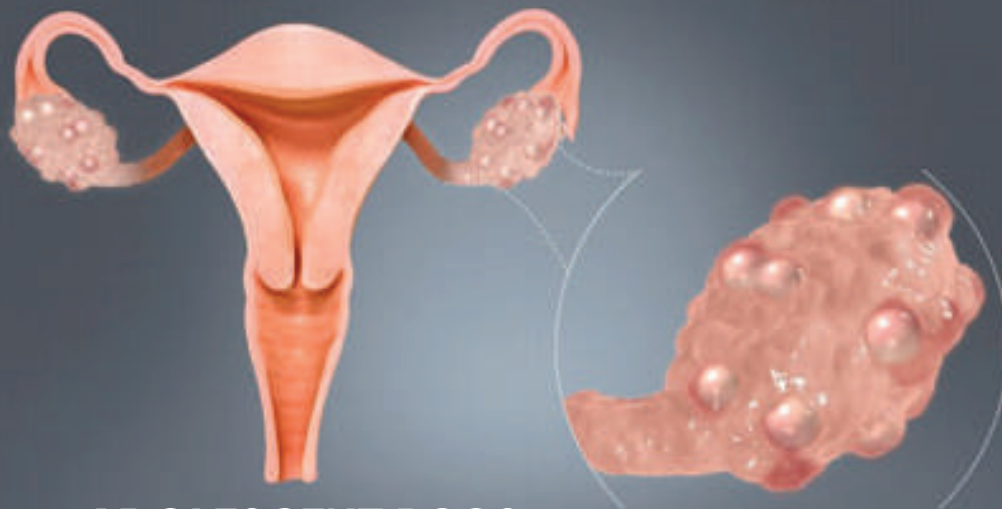
If surgical intervention is required based on symptoms of rupture or torsion or uncertainty of diagnosis, attention should be paid to minimizing the risks of subsequent infertility resulting from pelvic adhesions. In addition, every effort should be made to conserve ovarian tissue. A laparoscopic approach is better than a laparotomy. In the presence of a suspected malignant unilateral ovarian mass, a frozen section should be arranged. Even if positive for malignancy, a unilateral oophorectomy rather than a more radical surgery should be attempted, even with suspicion of metastasis.

Further surgery can be performed as a second sitting if necessary, after an adequate histological evaluation of the ovarian tumor is completed.

The surgical management of inflammatory masses is rarely necessary in adolescence, except for managing rupture of tubo-ovarian abscess or failure of medical management with broad spectrum antibiotics. Conservative unilateral adnexectomy can usually be performed in these situations, thus maintaining her reproductive potential.

In short, abdominal masses in teenagers should not be taken lightly, as it may have a significant impact on the girl's well being and her future reproductive life.





ADOLESCENT PCOS



Dr Sajala Vimalraj

Additional Professor O & G,
Govt Medical College, Kozhikode

“Doctor, I have PCOS” - not an uncommon refrain from your google savvy teenager. Add to that a USG picture of polycystic ovaries. And lo! A perfect recipe for a distraught teenager and parent. It's then our duty to find out whether she actually has the syndrome and how to manage her.

PCOS, initially described by Stein-Leventhal way back in 1935, is a complex trait arising from heritable influences, non-heritable intra and extra-uterine environmental factors, variations in insulin resistance and alterations in steroidogenesis and steroid metabolism. With a quoted incidence varying from 5-15% in women of reproductive age, it is a very common condition.

Clinical features: Includes varying combinations of symptoms like irregular or absent periods, weight gain, acne, hirsutism and pigmented raised velvety patches on the neck and armpits, eating disorders, mood swings and possible depression, in the post-menarcheal adolescent.

Hyperandrogenism, thus, is a key factor for diagnosing PCOS. Other aetiologies of hyperandrogenism and irregular menses (NCAH, Cushing's syndrome, Thyroid dysfunction, hyperprolactinemia, etc.) should be excluded.

In adolescence, diagnostic criteria are controversial, because features used for diagnosis like acne, irregular menses and PCO morphology may be normal

Diagnosis: Various criteria have been proposed for diagnosis are shown in this table

Criteria	NIH 1990	Rotterdam 2003	AE-PCOS 2006
1. Irregular periods (eight or less menses per year)	Both 1 & 2 Criteria are needed	2 out of 3 Criteria are needed	Criteria 2 plus 1 or 3 are needed
2. Hyperandrogenism (elevated androgens or clinical – hirsutism, acne or androgenic alopecia)			
3. Polycystic ovarian morphology (ovarian volume > 10cc Or >12 subcentimetric follicles in at least one ovary)			

physiological changes of puberty, especially in the first 1-2 yrs of menarche. Stricter diagnostic criteria had been suggested by Sultan and Paris, but have not been accepted widely. Given the overlap with the metabolic syndrome, we might choose a median pathway between total disregard of the complaints as immaturity of the HPO axis and ordering a battery of investigations for diagnosing PCOS on one side, and opting for instituting lifestyle measures for reducing obesity, following up the girl over the next 6-12 months and then deciding to re-evaluate and confirm the diagnosis, on the other side.

Investigations: Diagnosis is primarily based on the history and examination.

- TSH, Prolactin to rule out treatable causes.
- If hirsutism is severe, total and free testosterone levels, DHEAS (for the adrenal source), 17-OHP (to rule out NCAH) and cortisol (Cushing's disease) is done.
- FSH, LH, USG pelvis may be done.
- 75gm OGTT and Fasting Lipid Profile periodically, to screen for

- metabolic abnormalities is imperative.

Management:

- Aim - symptom relief
- minimizing long-term consequences (Endometrial neoplasia, Diabetes, CVS disease, Infertility)
- Lifestyle modification -
The cornerstone:
Balanced diet, low in carbohydrates, adequate protein, calorie restriction, avoiding food fads. Emphasis on calorie expenditure- no amount of dieting, will help, unless accompanied by exercise. 150 minutes of moderate exercise per week, stepping up intensity periodically till adequate weight loss achieved (even a 2-5% weight loss gives excellent results) and then stabilize on a moderate routine, for life. The cardio-metabolic risk reduction so achieved, should be highlighted to improve motivation to start and maintain these healthy practices.
- Symptomatic management:
Irregular periods - Progesterone in the second half of the cycle, or

Combined OC pills (if not contraindicated)

In those with hirsutism, anti-androgen (Drospirenone or Cyproterone acetate) containing COCs may be given, for a period of 6-12 months, and then re-evaluated. Cosmetic treatment (laser, waxing) for facial hair or Eflornithine cream may be needed. Acne usually responds to COCs.

- Metformin: reduces insulin resistance, helps weight reduction. Reduces long term risk for CVS disease and DM. May be combined with COCs. Started in a dose of 500 mg bd and stepped up to 2gm/day. Can also be used in Lean PCOS patients.
- Psychological support

Conclusion

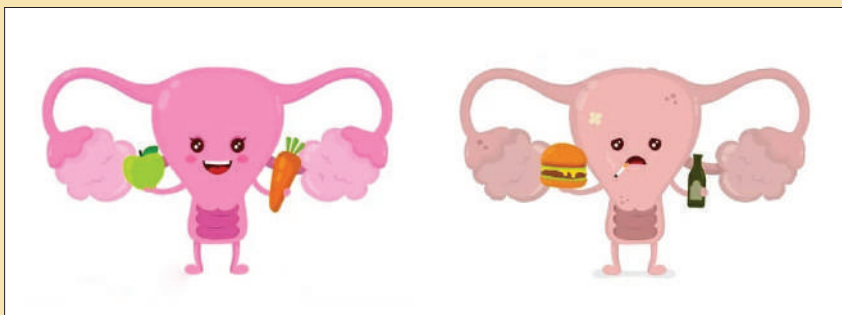
Polycystic morphology of the ovary on USG is not synonymous with the PCO Syndrome. Diagnostic criteria should be diligently applied, especially in the first two years following menarche, before deciding whether a girl has PCOS or not. Counseling should include a clear picture of the prognosis, information on testing for comorbidities and about the management mainstays including weight loss, diet, exercise and pharmacotherapeutics, whichever is

applicable. The fact that there is no magic or permanent cure should be emphasized, to put an end to the tendency to go doctor shopping in order to “cure” the girl of the disease.

Timely management helps mitigate the reproductive health consequences and the associated cardiometabolic risks, which infact is far more important than assigning a diagnostic label of PCOS.

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What is Good? What is Bad?



WHY WE NEED TO EDUCATE OUR TEENAGE BOYS?



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Most teenage boys do well. They graduate from high school, make healthy choices, and reach adulthood prepared for the world of work and the responsibilities of family. For young men like these, opportunities have never been greater. But for certain other boys, the transition to adulthood, isn't so easy.

They often get confused about changes that happen in their body. They might also suffer from issues related to their mindset. They might face significant adjustment issues with their parents, siblings or teachers. Some become victims of crime or commit crimes themselves. Some abuse substances at a young age or suffer from mental health problems such as depression. Some do poorly in schools or drop out.

Conventionally we have always focussed on creating awareness amongst girls, especially the girls in their teens. We firmly believed that they needed it the most, considering that major events like menarche happen in her and she need to be prepared for it. We thought nothing 'so significant' was expected to happen in a boy. Hence it was taken for granted that boys will adapt themselves and they would hardly need any kind of specific help.

But as years went by, we were proven wrong. Since everyone including the boy's parents, took him for granted, the teenage boy was taken by surprise. He hardly knew what was happening to his body or mind. Whatever little he knew, was from the friends, who were as

ignorant or more ignorant than him. Thus he went through his teenage, with a whole lot of wrong notions.

The perks of educating a boy in his teen, is infact twofold. First and the most obvious is that we can help the boy at a personal level, to help him understand the physical and mental changes and thus help him tide over this difficult phase. The other, often forgotten benefit is, to the society, as a whole. By instilling the right thought process and taking care of a teenage boy, we are infact creating a young man, who would be more respectful towards others around him, especially the girls and women. No wonder, following this ideology, the entire nation has switched over from the slogan from Beti Bachao, Beti Padhao to Beti Padhao Aur Beton ko Samjhao.

How exactly to help our boys?

Boys' problems are not intractable and their strengths are many. Research has

shown that, simple steps can go a long way towards helping boys to confront challenges.

1. Showing them that adults care about them
2. Talking to them candidly about drugs, tobacco, and alcohol
3. Encouraging them to help, rather than bully, each other
4. Providing them with positive, supervised ways to spend their time, when they are not in school.

There is no one right answer. Some boys may respond well to simple interventions, while others require years of additional support. What we do know is that, despite challenges, there is great opportunity to prepare our boys to develop their capabilities, reach their potential, and undergo a successful transition to adulthood.



TEENAGE PREGNANCY: A BURNING ISSUE



Dr Kalpana G
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Adolescence, as such is troublesome. That's the changing time, physically, biologically, mentally and emotionally. The commonest issues that teenage children face include acne, beauty consciousness, body shaming, peer pressure and hectic academics. Their rebellious nature and not being able to understand the situation they are in, makes it difficult for them to cope with their family & friends.

Above all these, is one of rarer and the most unfortunate burdens, a teenage pregnancy!

Adolescent pregnancy is indeed a burning issue. They are either married ones due to the prevailing child marriage customs, that evade all the existing laws,

or they are unmarried girls who get pregnant in the most unfortunate circumstances. These pregnancies sadly are increasing in number, due to changing social norms, permissive attitude of society, media influence, nuclear family trends, premarital sex, drug addiction and most importantly poor access to contraception or lack of awareness

Worldwide, almost 21 million girls aged 15-19 years are getting pregnant every year, with 7,77,000 births in under 15 age group with US having the most numbers.

In India, it was 11.8 million in 2017, increasing to 16 million per year in 2018 comprising almost 11 % of the world's total teenage pregnancies.



According to NFH survey, urban India has 5%, whereas rural has almost it's double at 9.2% of population. Amongst the Indian states, Uttar Pradesh has the highest, followed by West Bengal and Bihar . The South Indian states has lesser numbers.

The only Indian state with low Adolescent Fertility Rate is Kerala with 18 births/1000 women aged 15-19 years District wise split up rates shows Palakkad at 5.8%, Malappuram at 4%, Kozhikode at 3.5%, Wayanad at 2.1%, Kottayam at 1.3% and Kollam at 0.8%. Idukki and Pathanamthitta has the least AFR at 0%

What are the complications, if a teenage girl becomes pregnant ?

Obstetric complications

1. Antenatal: Criminal and septic abortion, anemia, malnutrition, preeclampsia
2. Intranatal: Preterm, IUGR, CPD, increased caesarean rates
3. Postnatal: Depression, Postpartum psychosis, infection, lactational failure, sub involution of uterus, puerperal sepsis

B. Fetal: Prematurity, Small for gestational age babies, inadequate bonding with mother who herself isn't well versed, with her role as a mother

C. Psychological: Mental and emotional trauma, not getting adequate family support, guilt, ridicule from society, blame, accusation, depression, suicidal attempts, postpartum psychosis, baby handed over for adoption and the resultant mental changes.

D. Long term problems : Recurrent miscarriage, Infertility, PTL, IUGR, STDs, Cancer cervix , CIN, Anemia, high suicidal rates, guilt, depression, social outcasting, disrupted education. And the baby will also suffer from poor mother-child bonding, behavioral disturbances and baby battering.

Prevention is always better than cure

• Awareness to both boys and girls, must be the manthra.

1. Awareness sessions should be conducted in schools, colleges, villages and public gatherings. It should focus on family life education, dangers of premarital sex, how to concentrate on career, what to do and when & whom to consult, if medical help is needed.

2. Widespread and effective use of social media for spreading awareness on these issues

3. Awareness on contraceptive measures and providing easy access to contraception including post-coital methods

4. Increase in female literacy rates

5. Women empowerment

6. Stress upon having goals in life and achieving them first, before getting pregnant or starting a family.

7. Stringent laws and its enforcement. Unfortunately in India, early marriage and teenage pregnancy is often not a deliberate choice, but rather the result of lack of choices and circumstances beyond a girl's own control.

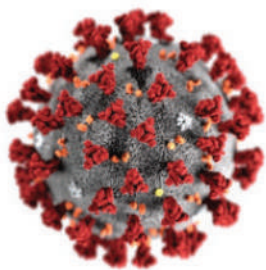
Continuing schooling, exploring employment opportunities, delaying marriage and pregnancy are challenges for Indian girls, that are reinforced through patriarchy and social norms. This must be slowly but surely changed.

Make them aware that teenage is an age where, a school bag bump at the back, looks better than a baby bump in front.

Remind them what Dr A P J Abdul Kalam once said

" You cannot change your future
But, you can change your bad habits
And surely, your habits will change your future "

We cannot always build the future for our youth, but, we can build our youth for the future.



COVID CORNER: THE KERALA EXPERIENCE

(This segment includes the key learning points from the KFOG meeting on Management dilemmas in Covid 19 in pregnancy)

- The increase in the number of maternal deaths in the second wave of COVID 19 infection, was emphasized
- At the same time, the quality of care and the degree of involvement in treatment, especially for the severe cases, was much appreciated
Learning points from the 2 sample cases presented were:
The phenomenon of new onset high blood pressure and seizures in the post partum could be attributed to:
- The high dose of steroids used – but all the same, the only drug that works in such situations are steroids
- The preeclampsia like phenomenon that occurs with severe Covid-19 disease
- The hypertensive response to hypoxia, then worsens
- It was suggested that the dose of steroids and the co-existing factors be looked into, in this cohort of cases
- In spite of the fact that the RECOVERY trial was conducted with dexamethasone, it would be prudent to consider that all of them were carried out in non pregnant individuals
- In pregnancy, it may well be worthwhile to start with methyl prednisolone (as it has a better lung penetration) and reserve dexamethasone for the short period of four doses, required for enhancing lung maturity.
- Remdisivir must be used early in the course of the disease when they have dyspnoea, desaturation and need for oxygen and steroids, i.e when there is active viral replication
- Consent must be obtained, as it is an off label use in pregnancy
- The phenomenon of hypernatremia in worsening severe disease was commented on and explained probably via the renin angiotensin – aldosterone system (RAAS) that the virus works through.
- At the same time, hyponatremia has also been described.
- Also that, it may be worthwhile to bring patients into the CSLTC (Covid Second Line Treatment Centres) in the third trimester, assess them and then consider home quarantine, if they remain asymptomatic



- The feasibility of such a strategy was much debated
- Pregnant women often under-report breathlessness and deny it until they become very severe and fare poorly. Also the phenomenon of “happy hypoxia” must be borne in mind, if we are going to rely only on symptomatology.

If under home quarantine, pregnant women must have a pulse oxymeter and must record their readings – (Spo2, pulse rate and temperature, at least twice a day. The 6 minute walk test must also be implemented in such situations.

- The asymptomatic pregnant woman who has tested positive by a routine swab at 36-37 weeks, does not need urgent delivery provided her lab investigations are normal .
- All admitted pregnant women who are symptomatic (dyspnoea, chest pain, or persistent cough) must have an X ray chest with abdominal shielding and on a basic minimum, must have a CRP and D dimer .
- Category C patients must have, a ferritin and LDH in addition, if feasible.

Delivery in severe disease

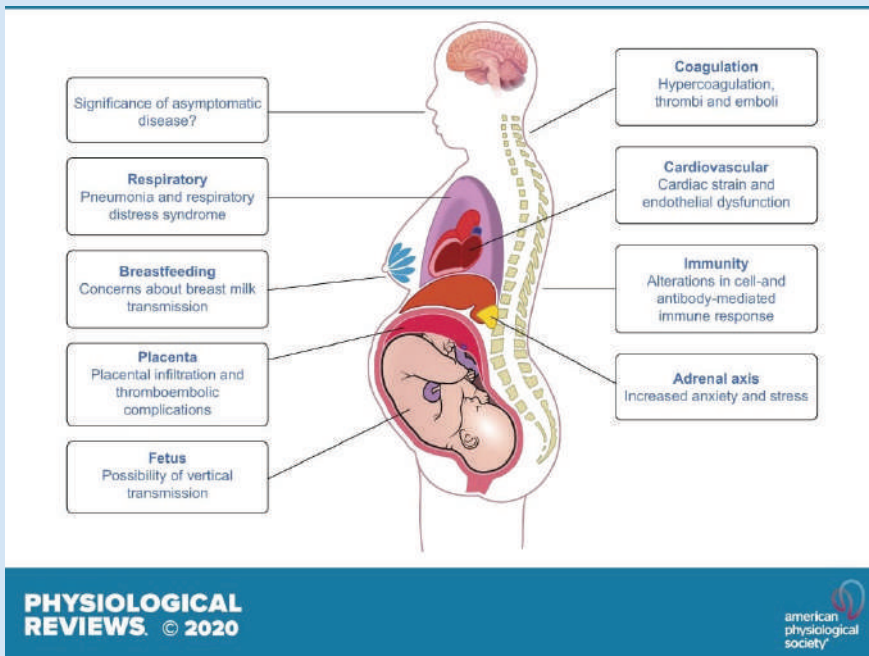
- When faced with desaturation and increased work of breathing – steroids, LMW heparin and oxygen are the main stay
- Proning, though difficult in later stages in pregnancy, must be adopted in the first and second trimesters.
- In the third trimester a lateral decubitus must be encouraged and sincere efforts must be made to prone at least intermittently with the help of two pillows - one under the chest and the other under the pelvis, if feasible.
- Oxygen when first given via nasal prongs/ cannula must be monitored for 30 – 40 mts, which is the time

allotted for the oxygen to actually get into circulation, when SPO2 must improve.

- If there is no improvement in oxygen saturation, a change to HFNO or a NRB mask must be instituted in 45 mts, as these devices can deliver oxygen at a faster flow rate. The nasal prongs does poorly beyond 4-5 L /mt
- Once not responding to these, a decision for NIV must be made swiftly.
- One can start with an FiO2 of 0.6 and increase gradually - a cut off of 0.8 may be considered to say that the NIV is not working.
- However, response to any form of oxygen therapy must be decided not only on the target sPO2 (in pregnancy it would be >94%) but also , on the work of breathing exhibited by the mother.
- Patients do improve when offered NIV, with a careful increase and decrease in FiO2, with a weaning policy that may take 5-7 days
- Being on NIV per se is not an indication to terminate pregnancies, even if they are 30 weeks and greater and if they show an improvement.
- While on an NIV / mechanical invasive ventilation, the target Pa O2 must be > 70 mm on an ABG.
- Hypoxemia with ARDS takes a longer time to improve and due consideration may be given to termination of pregnancy in such situations.
- An arbitrary rule can be a woman who needs > 10 L/mt of oxygen and is still showing signs of increased work of breathing and desaturation, will probably need delivery.

Delivery to be considered when decision for invasive ventilation is made.

- In such situations, once the need for invasive ventilation arises and the pregnancy is 28 - 30 weeks of gestation, due consideration must be given to an emergency cesarean section but this is debatable
- When faced with pregnancies at gestational ages <28-30 wks – fetal survival is also in question and emptying the uterus may not afford an increased survival advantage in terms of betterment in ventilation for the mother.
- Pregnancies have been allowed to continue while on invasive ventilation only to be extubated a few days later with maternal and fetal survival – this requires one to one ventilatory care and may not be feasible in low resource settings.
- Having said that, an IUD can be terminated by prostaglandins of the E category, which do not worsen lung function or cause broncho constriction.
- Decisions for termination of pregnancy in category C, COVID 19 in pregnancy, must follow an individualized approach and it would be good if they could be made with a joint consultation with experts both from Obstetrics and Anaesthesia / Intensive medicine.





STEROID THERAPY IN COVID 19 PREGNANCY: The knowledge gained so far (A cross talk with experts)

Steroids and Tocilizumab are the only two drugs proven to have a survival benefit (RECOVERY TRIAL)

Steroids are the readily available and the cheaper option of the two.

In pregnancy, using dexamethasone in hospitalized Covid positive patients who are mechanically ventilated or who need supplemental oxygen, had a possible mortality benefit and a low risk of fetal adverse effects, with short duration use of 10 days.

Steroids are preferred in all moderate to severe cases, with SPO2 less than 94, regardless of the day on which the symptoms began.

Steroids

- Other than Dexamethasone, the corticosteroids that can be used are Prednisolone, methyl prednisolone and hydrocortisone
- Steroids differ in their half life, duration of effect and frequency of administration

- 6 mg Dexamethasone is equivalent to 40 mg prednisolone, 32 mg of methyl prednisolone and 160 mg of hydrocortisone.
- Dexamethasone is a long acting steroid with a half life of 36 to 48 hrs and therefore once daily administration is enough.
- Prednisolone/methyl prednisolone have a shorter half life and therefore has to be an OD or BD administration
- Hydrocortisone has an even short half life and so is given in 2 to 4 divided doses daily
- Methyl prednisolone and Prednisolone are superior to Dexamethasone. Methyl prednisolone penetrates the lungs and binds to the glucocorticoid receptors more effectively and has the strongest anti-inflammatory effect

Precautions while using steroids

- Use of steroids is to be specifically discouraged in
 - a) Asymptomatic patients
 - b) Patients with minimal clinical signs, lasting less than 1 week
 - c) Patients with CT score below 8 and

'Initiation of steroids, is not an indication to start antibiotics'

- A patient at 30 wks of pregnancy presents with breathlessness and an SpO2 of 89% . Her RR is 30 / mt
- X ray shows bilateral fluffy opacities
- I am not doing a HRCT – is it required?
- Since the X rays are showing infiltrates, we have an explanation for hypoxia. This is a case of severe Covid 19....no need of CT chest as the treatment of Covid 19 is based on the saturation and work of breathing, than the CT finding
- Indications for CT would be in the following situations:
 - a) Hypoxia, hypotension, tachycardia, elevated d-dimer to rule out a pulmonary embolism (CTPA)
 - b) Clinical features suggestive of Covid pneumonia.....but RTPCR is negative. Can try a lower respiratory sample like sputum/ bal PCR and if still negative, consider CT chest
 - c) Patient into second or third week in ICU and X ray shows new infiltrates: CT may be taken to rule out invasive fungal infections (CAPA/pulmonary mucor mycosis)
- I start her on 40 mg IV methyl prednisolone OD and heparin at 0.4 mg od and oxygen at 4 L/ mt with a nasal canula – this goes on for 6 hrs and she is still showing an increased work of breathing .
- Do I need to increase the steroid ?
- If yes, by how much ? Should I increase the heparin again? By how much ? D dimer is 2.4
- Since she is having severe pneumonia, dose of methylprednisolone may be

- As it is 30 weeks, we should start with Dexamethasone before switching to methyl prednisolone to ensure fetal lung maturity, in case termination is required
- For a 30 week pregnancy, D dimer of 2.4 may be normal. Depending on the patient's weight, can increase to 60 mg OD
- As she is not improving, I switch to NIV with an FiO_2 of 0.6
- Marginally better in 24-48 hrs – ABG PaO_2 is 77 initially, then improved
- I start an active weaning policy after 2 days of NIV, as she is improving
- Can/should I reduce the steroid?
- Aim must always be to use minimum dose of steroids, which can take care of lung inflammation and systemic inflammation
- But she is on NIV with FiO_2 of 0.6, so here we will continue with the same dose of steroids till her P/F ratio improves above 200 and patient can be weaned off NIV

- Watch out for
- Hypokalemic metabolic alkalosis
- Steroid induced psychosis/altered sensorium
- Secondary adrenal insufficiency,
- osteoporosis in case of prolonged use

- How long do I give the steroid?
Do I abruptly stop or do I taper ?
- Duration of steroids is around 7-10 days, depending on the response. However, if the hypoxia is not improving and if there is evidence in CT of interlobular septal thickening or

- fibrosis, steroids may have to be continued for a longer period of time
- When steroids are used only for a short period of 7-10 days, we can also stop it abruptly
 - Why should I choose methyl prednisolone, if I am not contemplating delivery?

Both methyl prednisolone or prednisolone will avoid fetal adrenal suppression, as both will be degraded by Placental 11 beta hydroxy steroid dehydrogenase 2

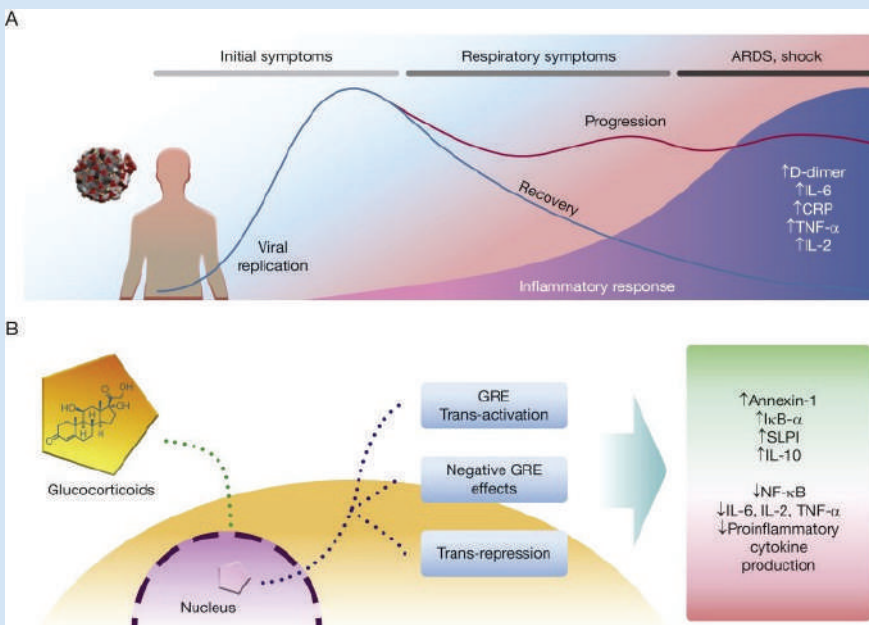
- What is your call on oral steroids ?
- Oral steroids in above doses have good bioavailability

Suppose I have covid positive patient, asthmatic with dyspnoea, without saturation fall and persistent cough, what should I do next?

- These patients would be the ideal candidates for inhaled steroids

- The recommended dosage is Budecort 800 mcg twice daily
- Inhaled steroids have also been found useful in adult patients with mild Covid 19, not requiring hospitalisation
- There has been a case when after 60 mg tds for category C in pregnancy, not a known hypertensive till then, started showing high blood pressure and in few days threw convulsions
- Can this be steroid induced ?
- Convulsions in covid 19 are multifactorial
- It could be due to steroid induced metabolic derangement, or an increase in hypertension triggered by steroids

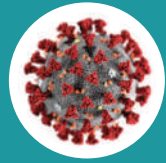
However, we need to rule out covid associated encephalitis, cortical venous sinus thrombosis or even parenchymal haemorrhage due to enoxaparin.





COVID-19 CARE IN PREGNANCY

KFOG-GCPR



Categorization of COVID-19 in pregnancy

Category B1 : The asymptomatic pregnant woman

Category B2 : The pregnant woman with ILI symptoms (fever, cough, rhinitis, sore throat) or diarrhea or fatigue, or those with co morbidities like hypertension, diabetes, liver disease, renal disease.

Category C : The pregnant woman with either breathlessness, chest pain, drowsiness, or hypotension hemoptysis, cyanosis [red flag signs]

** Categorization should be reassessed every 24-48 hours for Category B1 & B2 based on symptoms and walk test.*

Clinical stages of severity

Mild: No breathlessness or hypoxia
RR < 24/mt, SpO₂ > 94% on room air, and otherwise asymptomatic

Moderate: Dyspnoea and/or hypoxia
RR 24-29 / mt, SpO₂ 91-94% on room air,
Or fever and cough

Severe: Dyspnoea and/or hypoxia
RR > 30 breaths/ mt or SpO₂ < 90% on room air or
pulse rate > 125/mt with or without pneumonia

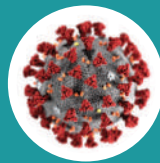
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COVID-19 CARE IN PREGNANCY

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Instructions for Care at Home for Category B1

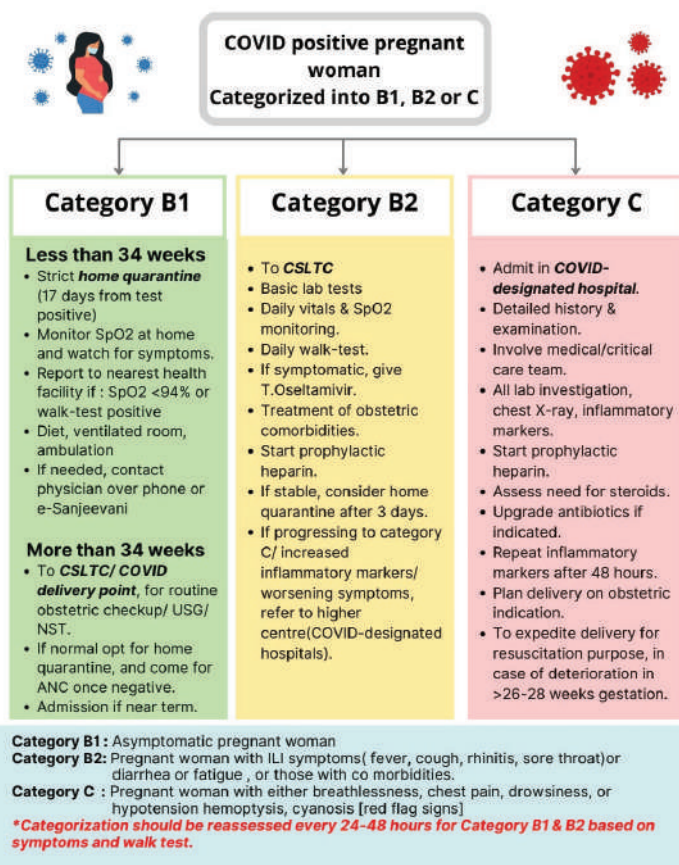
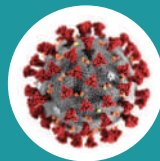
- Asymptomatic women with no high-risk factors and less than 34 weeks.
- Stay in a well-ventilated single room with an attached/separate toilet.
- Avoid sharing household items e.g. dishes, drinking glasses, cups, eating utensils, towels, bedding, or other items with other people at home.
- Nutritious diet
- Complete bed rest to be avoided. She has to be ambulant inside room
- Continue taking iron, folic acid, calcium and other medications prescribed from the OBG clinic
- Monitor temperature, oxygen saturation using pulse oximeter, do walk test daily, look out for development of symptoms like, fever, cough, breathlessness, drowsiness, fall in spo2 less than 94% and positive walk test
- Walk test- walk for 6 minutes or walk 40 steps and measure SPO2 before and after. A fall of 3% is significant.
- If symptoms appear (cough/fever/difficulty in breathing), he/she should immediately inform the nearest health centre/ treating hospital
- Only an assigned family member should be tasked with taking care of the person and he/ she has to maintain proper personal and environmental sanitation measures



COVID-19 CARE IN PREGNANCY

An Overview

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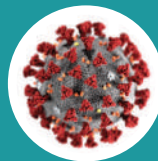
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KFOG Good Clinical Practice Recommendations on Management of Covid 19 affected Pregnancies

1st May 2021



Laboratory investigation for proven COVID 19 patients

At Admission	CBC, RFT, LFT, CRP, RBS, S.electrolytes, ECG, Pulse oximetry.
If clinically Indicated	Portable CXR, HIV, HBsAg, HCV, D-Dimer, Ferritin, LDH, CPK, procalcitonin, Blood culture, TROP T/I, HRCT Thorax [only in case of worsening]
To repeat Every 48 hours if clinically deteriorating.	CBC, Creatinine, AST/ALT, CRP, LDH, CPK, Ferritin, D-Dimer.
For Immunocompromised patients eg Transplant recipients, HIV	Tests to rule out opportunistic infections like Mycobacterium tuberculosis, pneumocystis jiroveci etc

Values to remember for the pro inflammatory markers:

Marker	Normal value	High risk
CRP	< 5	CRP > 100 mg /L
d Dimer	1 st trimester: 169-1202mcg/l 2 nd trimester: 393- 3258 mcg/l 3 rd trimester: 551- 3333 mcg/l	
Ferritin	< 60	Ferritin > 300mcg/L
LDH	< 400	LDH > 400 U /L
		#NLR >3.13, *ALC < 0.8

*ALC – Absolute lymphocyte count #NLR – Neutrophil lymphocyte ratio [NLR – should be calculated prior to steroid administration]