

momstory times

Official Newsletter of Momstory by Sahyadri Hospitals | January 2024 Edition





Dr. Mahima Bakshi

Maternal Child Wellness
Consultant and Brand Consultant,
Momstory by Sahyadri Hospitals

From the Editor's Desk

As we start this new year and look back, we are thrilled to see the number of babies that were born at Momstory. We are glad that we could take care of all those babies and also their moms at Momstory. We believe in making every mother's moment of delivering her little one as memorable and special as we can.

We also hosted our Masterclass Event for expecting couples in December at Nagar Road, which was attended by a huge audience. Like always we are there to help couples prepare themselves for the arrival of their little one.

Looking forward to a fantastic 2024 as we are all geared up to help more moms and their babies at Momstory.

Unlock the secrets of super-parenting with 'Momstory Masterclass' - a holistic educational program designed for soon-to-be parents. Dive into a comprehensive journey that prioritises physical, mental, and emotional well-being, ensuring a fulfilling parenthood experience. Led by a panel of experts, this initiative hosts workshops, seminars, and forums, guiding both women and men on the path to nurturing a healthy family and discovering the true joy of parenthood.



MASTER CLASS EVENT COVERAGE





Fertility & Awareness Workshop

FIND BELOW A GLIMPSE
OF THE INTERACTIVE EVENT
IN SYNC WITH AN ELITE
GROUP OF EXPERTS FROM
THE HEALTHCARE AND
ALLIED INDUSTRIES





The Science of Reducing IVF Birth Risks

Dr. Pradeep Suryawanshi

HOD – Neonatology & Paediatrics, Sahyadri Hospitals Momstory, Nagar Road.

IVF is a groundbreaking fertility treatment which has an exemplary success rate and has been able to bring the gift of parenthood to thousands of couples across the globe. At the same time, there have been certain hitches with the same, one of which is a slightly elevated risk of preterm birth for IVF patients. When a baby is born before 37 weeks of pregnancy, it is considered a premature birth. Globally, prematurity is the leading cause of death in children under the age of 5 years. Inequalities in survival rates around the world are stark.

After several decades of research, we now have evidence that some important interventions are suitable for immediate use in contemporary clinical practice within high-resource settings and can be expected to safely reduce the rate of complications in premature babies.

1. Cord Clamping & Placental Transfusion:

After birth, the uterus continues to contract, and blood continues to flow from the placenta in the umbilical vessels to the newborn infant for a few minutes after birth. Placental transfusion occurs in all mammals except when another human clamps the cord early. 'Delayed Cord Clamping' is delaying the process for 30-120 seconds, rather than early clamping.

The benefits of delayed clamping are reduced haemoglobin fall at 3 months and increased iron stores.

Associated with less need for transfusion, improved circulatory stability and lower risk of intraventricular haemorrhage and necrotizing enterocolitis.



The advantages of placental transfusion due to delayed clamping are:

Term baby - Delayed cord clamping increases haemoglobin, blood volume & iron stores

Preterm baby - Delayed cord clamping associated with increased blood volume, reduced need for blood transfusion, decreased incidence of IVH & NEC in preterm infants

The evidence supports a clinical benefit to delayed clamping in term & preterm infants

2. Premature births, cerebral palsy and the role of magnesium sulfate in the prevention of cerebral palsy

Preterm births are a major risk factor for cerebral palsy. Cerebral palsy is defined as a group of disorders affecting the development of movement and posture causing activity limitation. It occurs due to insult during fetal development or infancy and has a prevalence of 2 – 4 cases per 1,000 live births, and the prevalence has been increasing in the last four decades as more extreme preemies are surviving due to improved NICU care, leading to high socio-economic burden.

Cerebral Palsy

Infants born less than 34 weeks constitute 25% of new cases of cerebral palsy

Increased risk of cerebral palsy in multiple pregnancies due to preterm birth

Twins have seven times, and triplets have 47 times the risk of cerebral palsy compared with singletons

Most common pathological lesion in cerebral palsy is periventricular white matter

Antenatal magnesium sulphate given to women at risk of preterm birth reduced the risk of cerebral palsy & substantial gross motor dysfunction.

MgSO₄ has a neuroprotective role.

MgSO₄ Regimen:

- Magnesium sulfate infused intravenously
 - 4g loading dose (over 20-30 min)
 - 1g/hour maintenance dose
- Continue regimen until birth or for 24 hours whichever comes first

Indication for MgSO₄ therapy:

Delivery before 30 weeks gestation planned or expected within 24 hours regardless of:

- Cause of preterm delivery
- Plurality
- Parity
- Planned mode of delivery

Repeat doses:

- If delivery does not occur within 24 hours but remains imminent, consider a repeat dose

Urgent delivery:

- Do not delay urgent delivery for maternal or fetal compromise to administer magnesium sulfate

3. Role of antenatal steroids in preterm delivery

Antenatal corticosteroids reduce the incidence of

a. Respiratory distress syndrome, b. Intraventricular haemorrhage, c. Necrotizing enterocolitis, d. Neonatal mortality by approximately 50% in preterm babies.

Antenatal corticosteroids significantly reduced the rate of neonatal respiratory complications. Treatment with antenatal corticosteroids before delivery by elective caesarean section has been shown to reduce the need for admission to NICU up to 39 weeks of gestation compared with controls.

Antenatal steroid regimen

Treatment should be either –

- Betamethasone, 12 mg IM, 2 doses 24 hours apart or,
- Dexamethasone, 6 mg IM, 4 doses 12 hours apart

Indications

- A single course of antenatal corticosteroids to women between 24 and 34 weeks of gestation who are at risk of preterm birth Empiric use of steroids has been recommended prior to cesarean delivery at 37 to 39 weeks of gestation

How long after administration of antenatal corticosteroids, is it considered most effective?

- Antenatal corticosteroids are most effective in reducing RDS in pregnancies that deliver 24 hours after and up to 7 days after administration of the second dose of corticosteroids
- Antenatal corticosteroids use reduces neonatal death within the first 24 hours and therefore should still be given even if delivery is expected within this time



Key messages

- 24 weeks to 34 weeks – always use steroids
- Late preterm (34 weeks to 36 weeks) – recent data suggests very useful so should start using
- Use of steroids for elective LSCS recommended by RCOG
- Periviable period (less than 24 weeks) studies say antenatal corticosteroids are useful
- Antenatal corticosteroids are beneficial at all levels

A close-up photograph of a pregnant woman's bare belly. Two hands, one from the left and one from the right, are gently touching and caressing the skin of the abdomen. The woman is wearing a white top and white pants. The background is a soft, light purple gradient.

Pregnancy Care

Dr. Mini Salunkhe

Director Obstetrics, Sahyadri Hospitals Momstory, Hadapsar Annexe.

Getting good care before, during and after your pregnancy is very important. It can help your baby grow & develop and keep both the mother & baby healthy.

Good pregnancy care includes good nutrition and healthy habits during pregnancy. Choose your healthcare provider, i.e. your obstetrician, carefully. Your obstetrician will guide you regarding the pregnancy tests, sonographies and supplements that should be taken by you during each trimester.

It is important to start folic acid supplements if you are considering becoming pregnant and if you are already pregnant. Prenatal folic acid would decrease the risk of certain birth defects.

Eat healthy foods. Most of your extra calories should be proteins. Also take plenty of fruits, vegetables and whole grains. Avoid alcohol intake and smoking during pregnancy.

How much weight to gain during pregnancy would depend on your pre-pregnancy weight. On average most women would gain 10-11 kg of weight in 9 months. For very thin or obese women, the weight gain would be more or less, respectively.

You can usually continue exercising and being active throughout pregnancy, until & unless there are some specific pregnancy issues which would warrant otherwise. Your obstetrician would help you regarding which exercises to avoid. You may need to modify certain exercises as your belly grows. Avoid contact sports.

The safest time to travel during pregnancy is between 14-28 weeks. Short travels with breaks are advisable.



Stretch & straighten your leg every hour.

A typical pregnancy schedule would entail checkups to your doctor every 4 weeks till 28 weeks of pregnancy, then every 2 weeks till 36 weeks and once a week till delivery. Visits would entail physical examination, sonographies as per the routine schedule, blood & urine tests and dispensing of prenatal vitamins, iron, calcium and protein supplements. You would be given certain vaccinations essential in pregnancy. These regular checkups are also a great time to learn how to ease any discomfort you may be having and ask any other questions about your pregnancy and the birth of your future baby.

It would be safe to avoid over-the-counter medication and X-rays in pregnancy. Please consult your doctor before taking any medication.

Your visits to your doctor may increase if you have any pre-existing illness before pregnancy or if you develop pregnancy-induced diabetes (GDM), hyper-tensions (PIH) or thyroid problems.

Selecting The Winner Sperm – An Update

It has been estimated that almost 50% of couples with fertility issues are affected by low sperm cell quality and the reproductive outcome is influenced by the paternal genome. It is well understood that it takes a “good” sperm and a “good” egg to produce a healthy embryo. A normal sperm has an oval-shaped head, an intact midpiece and an uncoiled single tail. Sperms with normal morphology are able to swim well and in a straight line. Normal sperms contain healthy genetic information which is uncommon in abnormally shaped sperms. The fusion of male and female gametes results in the formation of the zygote. Fertilization brings together maternal and paternal chromosomes and thus restores the diploid number of chromosomes in the future baby.

In natural conception, sperm selection is a rigorous process resulting in the highest quality sperms reaching the oocyte and the best one getting an opportunity to fertilize the oocyte. The natural qualities that enable only a few selected sperm cells to reach the site of fertilization after going through obstacles inside the female reproductive system such as cervical mucus are unknown.

Though In Vitro Fertilization (IVF) technique was started as a treatment for tubal infertility, the increasing number of men with poor semen quality led to the development of various semen preparation techniques to find the best sperm for IVF. Intracytoplasmic Sperm Injection (ICSI) introduced by Palermo in 1993, revolutionised the treatment of male infertility as it fulfilled the dreams of fatherhood, even for those men with very

severe oligospermia. In this technique of ICSI, the embryologist selects the “best looking” sperm using a fine injecting needle. Individual oocyte is selected and held gently in place with a specialised holding pipette and the selected sperm is injected into the oocyte. By injecting a single sperm directly into an egg, ICSI helped sperms overcome many of the natural barriers they would encounter when fertilising an egg. If a man had poor sperm motility, meaning his sperms were not swimming well, ICSI helped bypass that issue in fertilization. Likewise, if a man suffered from a low sperm count, as long as the embryologist was able to find and select a single good sperm, it was possible to perform ICSI to fertilise an egg.

Dr. Vaishali Chaudhary

Director IVF & Fertility, Sahyadri Hospitals Momstory, Nagar Road.



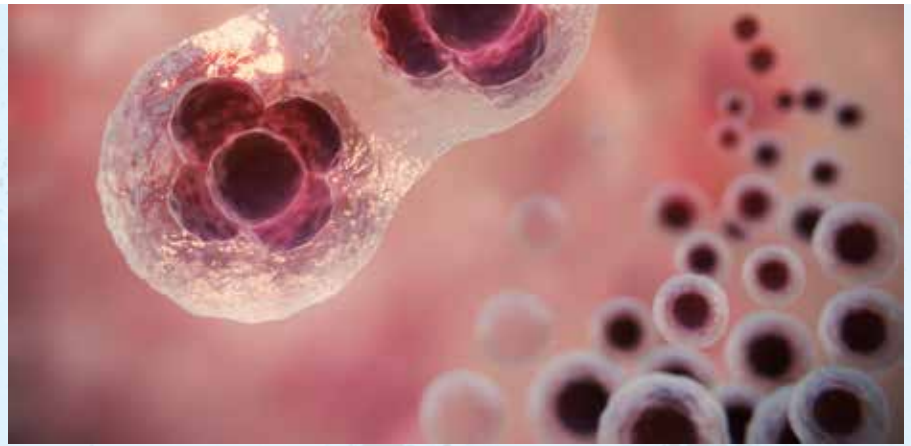
Establishing the best method to find the fittest sperm is crucial for achieving success in ART. These techniques generally fall into four categories – a. Simple dilution and washing, b. Sperm migration, c. Density gradient centrifugation, and d. Filtration or adherence. Regardless of the techniques, the objective of sperm preparation is to recover an enriched population of motile and functionally competent spermatozoa while eliminating dead spermatozoa and other cells. The technique should minimise damage to spermatozoa and eliminate decapacitation factors and toxic substances such as Reactive Oxygen Species (ROS).

There are multiple innovative and unique techniques to select the “best” sperm for ICSI procedure. This includes IMSI, PICSI, MAC sorting, microfluidics and a unique process called sperm nanobead selection.

Intracytoplasmic Morphologically Selected Injection (IMSI)

IMSI, sometimes also known as Super-ICSI, is one of these cutting-edge technologies. It uses a special lens for the microscope, to study the sperm under very high levels of magnification, greater than 600x. This is a major advantage in comparison with ICSI, in which sperm are selected individually under a less powerful microscope at 400x magnification.

Thus, IMSI allows the embryologist to see the structure of spermatozoa in great detail, allowing them to detect potential defects in the head, middle piece, and/or tail. The presence of such defects is associated with sperm DNA fragmentation. In general, the IMSI technique has resulted in an increase in fertilization and pregnancy rates, whilst decreasing the miscarriage rate.



Physiological ICSI – PICS

The PICS technique, also known as Physiological ICSI, is a method of sperm selection based on the degree of maturation of the sperm. This technique allows the selection of spermatozoa according to their ability to bind to a synthetic molecule with properties similar to hyaluronic acid. In the head of the mature sperm, there is a specific receptor for hyaluronic acid (HA), which is an important component of the cluster where the oocytes are found. Only those sperms that have completed spermatogenesis and the processes of plasma membrane remodeling, cytoplasmic extrusion, and nuclear maturation can adhere to hyaluronic acid. This method is very useful in cases where sperms have good motility but have a high degree of DNA fragmentation as it helps to choose the mature spermatozoon with good quality. It should be noted that seminal samples with very low sperm motility are difficult to use for the PICS technique.

MACS Procedure (Magnetic Activated Cell Sorting)

It is a sperm preparation technology that separates healthy sperms from those on the verge of dying (apoptosis). This improves the rate of fertilisation, early embryo dissociation, implantation, and conception.

The MACS IVF method employs biodegradable magnetic particles that have a kind of protein annexin antibody. The antibody binds to sperm with a lot of DNA fragmentation, which is more prone to apoptosis (programmed cell death). The sperm sample is subsequently transported through a column surrounded by weak magnetic fields. Healthy sperms travel through the channel while apoptotic sperms remain attracted to the walls.

MACS IVF is recommended when sperm have a high DNA Fragmentation Index (DFI), a low fertilisation rate in a prior IVF-ICSI cycle, or a history of miscarriage. Smoking, illness, varicocele, depression, and other factors have been linked to a greater level of apoptotic spermatozoa in the ejaculate. MACS is also recommended for individuals who have had more than two failed IVF cycles, as well as those who have had a higher DFI.

Microfluidics for Sperm Sorting

In the human body, there are small channels containing moving fluid that make up most of the conduits. Microfluidic tiny devices act as a physiological platform to recreate the channels and fluid flows in a living organism. Microfluidics provides the opportunity to sort sperm cells in a faster, gentler way that more closely mimics the natural selection processes and avoids some of the most detrimental elements of current sperm sorting techniques like centrifugation which caused an increase in the reactive oxygen species (ROS).

Sperm cells are rather complex and sophisticated. They must be as fit as Spartan soldiers in order to perform highly specialised functions and achieve fertilisation. It is important to consider improving sperm quality before IVF.



1. Lifestyle Choices:

- Avoid smoking, excessive alcohol consumption, and drug use, as they can negatively impact sperm count, motility, and morphology
- Maintain an active lifestyle to promote overall health

2. Diet and Nutrition:

- Prioritise a balanced diet rich in fruits, vegetables, whole grains, lean protein, and healthy fats
- Limit processed foods, sugary drinks, and saturated fats

3. Supplements:

- Certain vitamins and minerals (such as zinc, folic acid, and vitamin D) can promote sperm production and quality

4. Medical Conditions:

- Address any underlying medical conditions (such as varicoceles or hormonal imbalances) that may affect the sperm quality

5. Environmental Factors:

- Avoid exposure to toxins and extreme temperatures, as they can harm the sperm health

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Every parent aspires to be a super-parent, and 'Momstory Masterclass' helps you achieve that! 'Momstory Masterclass' is a comprehensive educational program that helps would-be parents stay physically, mentally, and emotionally healthy throughout their parenthood journey. Under this initiative, our panel of experts conducts several workshops, seminars, and forum discussions to help women & men take care of their well-being and experience the joy of parenthood in its truest sense.

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CARE & COMPASSION

The
'9 MIRACLE'
ANC Package



Momstory: Where Mothers are Born

Momstory by Sahyadri Hospitals is a leading Infertility, Maternity, Gynaecology & Childcare services provider.

With a patient-centric approach, Momstory focuses not only on the physical well-being but also the emotional & psychological wellness of patients.

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The '9 MIRACLE' ANC Package



At Momstory, we understand that each pregnancy is a unique journey and we are dedicated to providing comprehensive Antenatal Care (ANC) tailored to your specific needs. Our team of experienced healthcare professionals is committed to ensuring the well-being of both you and your baby throughout this miraculous experience. With our special 9-Miracle ANC Package, we offer personalised care throughout each trimester, helping you embrace the beauty of pregnancy.



TRIMESTER 1 - BLOSSOMING BEGINNINGS

• Consultations

Consultations (4)

• Scans

Viability Scan (1)

NT Scan (Single) (1)

• Lab Investigations

Double Marker (1)

CBC / Haemogram (1)

BSL- Random (1)

BSL- Fasting (1)

BSL- Post Lunch (1)

Urine Routine (1)

HB Electrophoresis (1)

Blood Group (ABO) (1)

Vitamin B12 (1)

Vitamin D3 (1)

HIV (1)

HBsAg (1)

HCV (1)

VDRL (1)

TSH (Ultra) (1)

GTT (1)

HBa1c (1)

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₹18,999/-*

TRIMESTER 2 - GLOWING & GROWING

• Consultations

Consultations (5)

• Scans

Anomaly (1)

Foetal Echo (1)

• Vaccinations

TT (1)

Boostrix (1)

Flu (1)

• Lab Investigations

Vitamin D3 (1)

Vitamin B12 (1)

CBC / Haemogram (2)

TSH (Ultra) (1)

Urine Routine (2)

GTT (1)

LFT (1)

Urine Culture (1)

Serum TSH (1)

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TRIMESTER 3 - COUNTDOWN TO CUDDLES

- Consultations

Consultations (6)

- Scans

Growth Scan (1)

NST (3)

Foetal Doppler (1)

- Lab Investigations

CBC / Haemogram (1)

HIV (1)

HCV (1)

Urine Routine (1)

HBsAg (1)

VDRL (1)

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Comprehensive Pregnancy Care Packages

The Momstory team is well-equipped to provide expert care throughout your pregnancy journey and ensures that you experience joy and comfort across all trimesters. These packages contain special offerings that ensure the well-being of both the mother and the baby.

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