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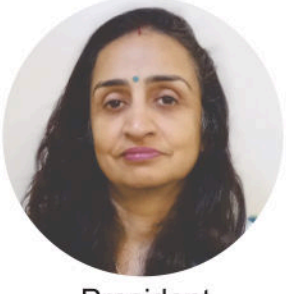


Understanding Risks ● Screening & Prevention ● Maternal-Fetal Outcomes ● Clinica Updates

Advancing Maternal & Fetal Health Through Knowledge

ISOPARB DELHI CHAPTER
NEWSLETTER
Volume -1 : July-September 2026

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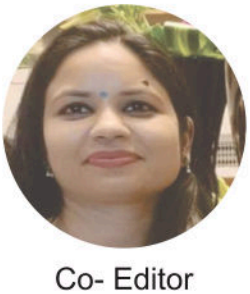
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From Cell to Self

It all began with one cell
Who wandered all alone by itself
In a world so lonely as it gets

So began the process of reproduction
Fission or fusion, it did not matter
My kin grew bigger and better
With smart chips and pacemakers
It created Gen alpha, beta from millennials

The gentle quickening's soon became volley's
But to lie straight upright was a folly
Every smash shot was acclaimed
But if I was in my beauty sleep, I was blamed

Lo....it was not long when my playground became too small
I had to find an opening in the wall
It was tough, me wrapped up in a caul
I tried hard, but soon
buckled under pressure
I waited for my destiny to get better

And soon the great moment arrived
Magical words from a Genie..." PUSH, PUSH"
A channel gate opened; it seemed all good
I slithered out, but only to be slapped
I cried, I screamed but soon was kidnapped
In a world of voices and lights I was left to moan
I was no longer a lone cell which wandered alone

Anshul Rohatgi

MESSAGE FROM THE PRESIDENT



It gives me immense pleasure to welcome you to the **inaugural issue of the newsletter of Indian Society of Perinatology and Reproductive Biology-Delhi Chapter**. This publication marks an important milestone in our Chapter's commitment to fostering academic excellence, strengthening professional collaboration, and promoting the exchange of knowledge in the fields of perinatology and reproductive biology.

The Delhi Chapter has always been dedicated to creating opportunities for learning, innovation, and meaningful interaction among obstetricians, gynecologists, neonatologists, embryologists, reproductive medicine specialists, and researchers. This newsletter is envisioned as a platform to showcase scientific achievements, highlight Chapter activities, share clinical experiences, and disseminate evidence-based practices that contribute to better maternal, fetal, neonatal, and reproductive healthcare.

The success of any professional society lies in the active participation of its members. I encourage each one of you to make this newsletter your own by contributing original articles, interesting case reports, clinical updates, research highlights, and reports of academic activities. Your contributions will enrich this platform and strengthen the academic spirit of our Chapter.

The inaugural issue of our newsletter is themed **"Small Virus, Big Impact: Viral Infections in Women's Health,"** underscoring the profound influence that viral infections can have on reproductive, maternal, fetal, and neonatal health. Through expert perspectives and evidence-based updates, this issue aims to promote awareness, encourage prevention, and support clinicians in delivering informed, high-quality care to women across all stages of life.

I extend my heartfelt congratulations to the editorial team for their vision, dedication, and hard work in bringing out this inaugural issue. I also thank all the contributors and members whose enthusiasm and support have made this initiative possible.

I am confident that this newsletter will evolve into a vibrant forum for sharing knowledge, celebrating achievements, and fostering collaboration among healthcare professionals. May it inspire continuous learning and reinforce our collective commitment to advancing maternal and reproductive health.

I wish the newsletter every success and look forward to its continued growth in the years to come.

With warm regards,

Dr. Sumita Mehta
President
ISOPRAB - Delhi Chapter 2026 - 2028



FROM THE EDITOR'S DESK

Greetings from the ISOPARB-Delhi Chapter!

It gives us immense pleasure to present the inaugural newsletter of the ISOPARB Delhi Chapter, themed "Small Virus, Big Impact: Viral Infections in Women's Health." Viral infections continue to have a profound impact on women's health, influencing clinical care across the entire life course—from adolescence and reproductive years to pregnancy and beyond. Through this inaugural issue, we have brought together a thoughtfully curated selection of articles that explore some of the most relevant viral infections encountered in contemporary obstetric and gynecological practice.

We are privileged to have contributions from a distinguished group of obstetricians, gynecologists, and pediatricians, whose expertise and clinical experience have enriched this issue and brought diverse perspectives to these important topics.

The academic section includes Dr. Nidhi Khera's comprehensive overview of TORCH infections in pregnancy, addressing their diagnosis, clinical implications, and impact on fetal health. This is followed with an insightful article on HPV vaccination by Dr. Mugdha Anand, highlighting the evolving role of vaccination in the prevention of HPV-related disease. A timely review of HIV in pregnancy and current management protocols, has been presented by the editorial team, with a focus on optimizing maternal care and preventing mother-to-child transmission. This is complemented by Dr. Natasha Tyagi's valuable review, Parvovirus in Pregnancy: Current Perspective and Management a topic of increasing clinical relevance in obstetric practice. Rounding off the scientific content, Dr. Bhanupriya presents a Journal Scan highlighting recent and noteworthy literature on viral infections in women's health, bringing readers up to date with emerging evidence and contemporary clinical perspectives.

Beyond the scientific articles, this issue also offers a glimpse into the activities of the ISOPARB Delhi Chapter, featuring a recap of our brainstorming sessions, academic initiatives, and other activities undertaken by the chapter.

We extend our heartfelt gratitude to all our contributing authors for generously sharing their time, knowledge, and expertise, and for their enthusiasm in helping us bring this inaugural issue to life. We are equally grateful to our readers for being a part of this journey.

As we embark on this new chapter, we hope this newsletter serves not only as a source of knowledge and clinical updates, but also as a platform for academic exchange, collaboration, and continued learning.

We warmly welcome your feedback, suggestions, and contributions as we strive to make each edition more enriching and relevant to our readers.

Happy reading!

Editorial Team

ISOPARB Delhi Chapter 2026–2028

TORCH Infections in Pregnancy : From Screening to Management

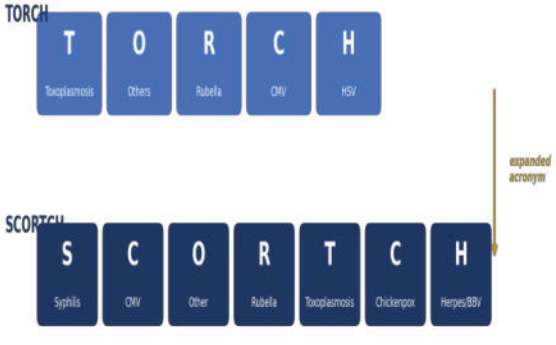
Dr Neha Bhardwaj (Associate consultant) , Dr Nidhi Khera (Senior Clinical Director) OBGY,
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Introduction

TORCH represents a group of congenitally and perinatally transmissible infections — Toxoplasma gondii, Others (syphilis, varicella-zoster, parvovirus B19, listeria), Rubella, Cytomegalovirus (CMV) and Herpes simplex virus (HSV) — that can cross the placenta and may or maynot infect the neonate during pregnancy and delivery.

Maternal infection is frequently mild or subclinical yet fetal consequences range from miscarriage and stillbirth to structural anomalies, sensorineural hearing loss and long-term neurodevelopmental impairment. Because presentations overlap, professional bodies increasingly favour risk-based and syndromic testing over universal panel screening with important differences in emphasis across ACOG (USA), FOGSI (India), FIGO (global) and RCOG (UK).

diagnostic interpretation, management and closes with a note on the emerging SCORTCH terminology.



This article summarises current guideline anchored recommendations for screening,

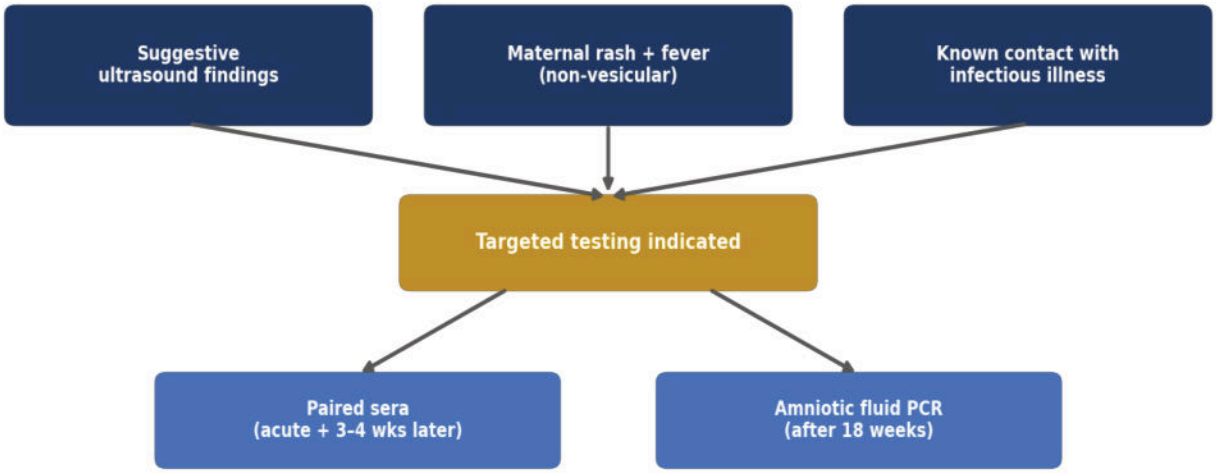
When Is Full TORCH Panel Testing Actually Indicated?

Full panel testing in a low-risk, asymptomatic woman is discouraged. It is far more useful when targeted at specific triggers since indiscriminate testing generates false positives, unnecessary anxiety and low-yield IgM results that are hard to interpret.

- Ultrasound findings suggestive of congenital infection — fetal hydrops, ventriculomegaly or other intracranial lesions, unexplained growth restriction, hepatosplenomegaly, or intracranial calcification.
- Maternal non-vesicular rash with fever or other systemic features suggestive of an acute viral illness.
- A documented contact with a person known to have a relevant infectious illness (e.g. rubella, varicella, parvovirus B19).

When testing is indicated, a paired-sera approach adds diagnostic value: an initial sample is drawn during the suspected acute illness and a second roughly 3–4 weeks later, comparing IgG titres for a rising trend. Fetal infection itself cannot be confirmed on maternal blood alone — amniotic fluid PCR is the standard and because organisms typically take about 4 weeks to become detectable in amniotic fluid after maternal infection, amniocentesis for this purpose is usually deferred until after 18 weeks gestation even when maternal infection is diagnosed earlier.

Full TORCH panel testing is NOT for routine, low-risk screening



Screening Recommendations

Organism	ACOG (2024)	FOGSI (2024)	FIGO (2023)	RCOG (2024)
Toxoplasmosis	Universal serologic screening not routinely recommended; test if exposure risk or ultrasound findings suggest infection	Screening advised in endemic/high-exposure settings; IgG/IgM at booking where feasible	Selective screening based on regional seroprevalence and access to confirmatory testing	Routine screening not recommended (low UK incidence); test only if clinically indicated
Rubella	Immunity documented at first visit via history/vaccination record; serology if status unknown	IgG screening at first antenatal visit; non-immune women counselled and vaccinated postpartum	Universal IgG screening at booking endorsed where MMR coverage is variable	IgG susceptibility testing offered at booking; MMR post-delivery if non-immune
Cytomegalovirus (CMV)	Universal serologic screening not recommended; counsel all women on hygiene-based prevention	Not routine; consider testing with suggestive ultrasound findings or IUGR work-up	Universal screening not endorsed; hygiene counselling emphasised globally	Routine screening not recommended; investigate if fetal anomaly scan is suggestive
Herpes Simplex (HSV)	Serologic screening not recommended; ask about history/prodrome near term	Clinical history-based; type-specific serology only in selected cases	History and inspection at labour; type-specific serology not universal	No routine serology; assess history and lesions at onset of labour
Syphilis	Universal serologic screening at first visit; repeat in third trimester if high risk	Universal screening at booking, mandated under national PMTCT-linked programmes	Universal screening strongly endorsed as an elimination priority (WHO-aligned)	Universal screening at booking (10 weeks) per national antenatal screening programme

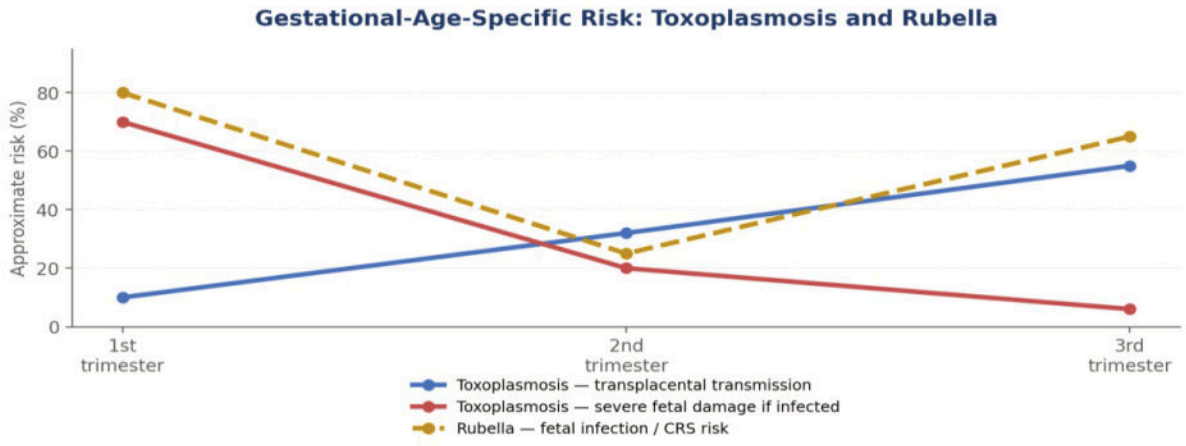
Diagnostic Interpretation at a Glance

Serology Pattern	Toxoplasma	Rubella / CMV	Interpretation
IgG–, IgM–	Susceptible	Susceptible	No past exposure; counsel on prevention, repeat if exposure occurs
IgG+, IgM–	Past/remote infection	Immune	Low risk of primary infection; no further action for rubella/CMV
IgG+, IgM+	Possible recent infection	Possible recent infection	Send IgG avidity; high avidity excludes infection in preceding ~3–4 months
IgG–, IgM+	Early/evolving infection	Early/evolving infection	Repeat serology in 2–3 weeks to confirm seroconversion
High avidity	Infection >3–4 months prior	Infection >3–4 months prior	Reassuring; primary infection unlikely in current pregnancy
Low/equivocal avidity	Cannot exclude recent infection	Cannot exclude recent infection	Refer to fetal medicine; consider amniotic fluid PCR after 18 weeks

Gestational-Age-Specific Transmission Risk: Toxoplasmosis and Rubella

Two organisms illustrate a clinically important, opposite-direction pattern that is worth walking through. For toxoplasmosis, the chance of the parasite actually crossing the placenta rises steadily as pregnancy advances while the severity of fetal damage if it does cross falls with advancing gestation. Rubella behaves in the opposite direction for severity - both transmission and the risk of serious congenital rubella syndrome are highest with first trimester infection.

Gestational Timing	Toxoplasmosis — Transplacental Transmission	Toxoplasmosis — Risk of Severe Fetal Damage	Rubella — Fetal Infection / CRS Risk
First trimester	Roughly 5–15%	Highest, roughly 60–80%	Very high (~80% fetal infection; up to 90% risk of major congenital abnormality)
Second trimester	Roughly 25–40%	Intermediate, roughly 15–25%	Falls markedly (~25% by late second trimester)
Third trimester	Highest, roughly 30–75%	Lowest, roughly 2–10%	Rises again (~35% to near 100% approaching term) but chiefly causes growth restriction rather than structural anomalies



Management —Once Infection Is Confirmed0

Organism	ACOG (2024)	FOGSI (2024)	FIGO (2023)	RCOG (2024)
Toxoplasmosis	Spiramycinto reduce transplacental transmission; pyrimethamine–sulfadiazine–folinic acid if fetal infection confirmed	Spiramycin firstline; refer to tertiary fetal medicine unit for confirmed fetal infection	Supports spiramycin/pyrimetha mine protocol with access-adapted regional pathways	Spiramycin from diagnosis; pyrimethamine-based regimen after 18 weeks if fetus infected
Rubella	No antiviral treatment; discuss termination counselling if infection <12 weeks given high anomaly risk	Structured counselling on congenital rubella syndrome risk by gestational age at infection	Emphasises MMR catch-up vaccination programmes to prevent primary infection	Detailed ultrasound surveillance; counselling proportional to gestational-age-specific risk
CMV	Valaciclovir may be considered for confirmed fetal infection in select centres; hyperimmune globulin not routinely advised	Refer suspected cases to fetal medicine; supportive counselling on outcome variability	Encourages hygiene-based primary prevention asthe principal population strategy	High-dose valaciclovir may reduce vertical transmission in selected primary infection cases
HSV	Suppressive aciclovir/valaciclovir from 36 weeks if history of genital herpes; caesarean if active lesions/prodrome at labour	Suppressive therapy from 36 weeks; caesarean delivery for active lesions	Aligns with suppressive antiviral strategy to reduce neonatal transmission risk	Suppressive aciclovir from 36 weeks; caesarean recommended for primary infection in third trimester
Syphilis	Benzathine penicillin G per stage of infection; sole recommended therapy in pregnancy	Benzathine penicillin G; partner treatment and follow-up titres mandated	Penicillin-based treatment prioritised globally as part of elimination strategy	Benzathine penicillin per stage; joint management with genitourinary medicine team

Parvovirus B19 in Pregnancy

Parvovirus B19 is one of the "Other" TORCH agents but deserves its own summary since it is easy to overlook. It affects roughly 1–5% of pregnancies and about a quarter of maternal infections are asymptomatic. The virus specifically targets erythroid progenitor cells in the fetal bone marrow. Although the risk of maternal infection is actually highest in the first trimester, the fetus is most vulnerable between about 16 and 28 weeks, when fetal erythropoiesis is most active — this can produce red cell aplasia, fetal anaemia, non-immune hydrops or fetal loss. Infection before 20 weeks carries roughly a 13% risk of spontaneous loss and a 4–5% risk of hydrops. After 20 weeks these risks fall to under 2% and about 2–3% respectively.

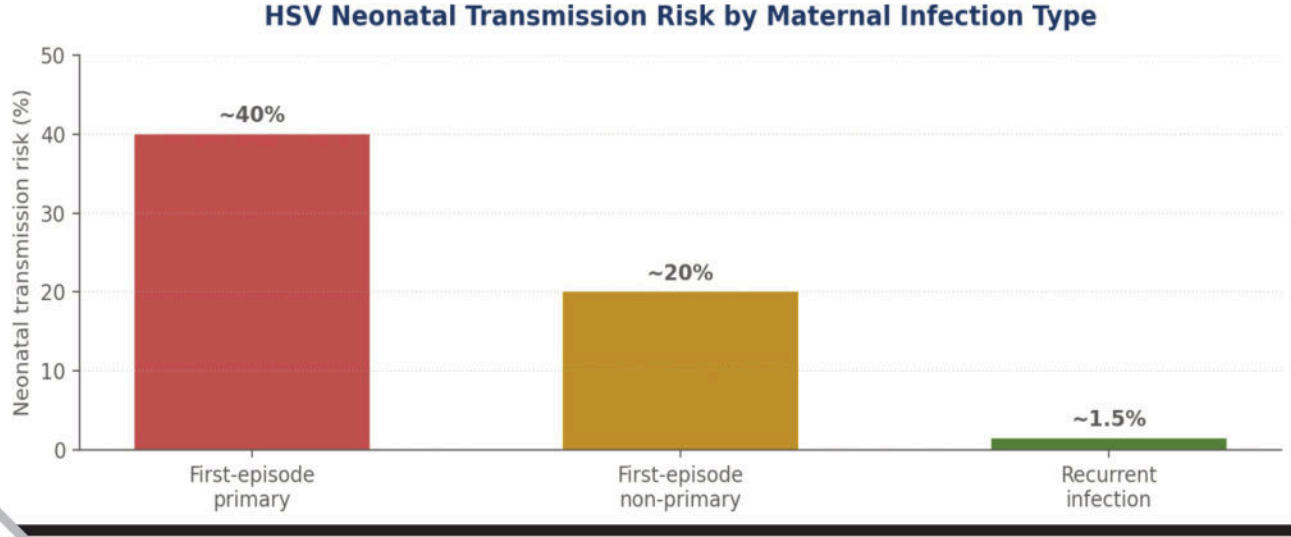
Step	Practical Approach
Confirm maternal infection	Type-specific IgG/IgM serology; IgM typically appears within 2–3 days of symptom onset (or 10–12 days after exposure) and persists for months, while IgG confers lifelong immunity
Fetalsurveillance after confirmed maternal infection	Serial ultrasound with middle cerebral artery (MCA) Doppler to screen for fetal anaemia; weekly scans are reasonable for roughly 8–12 weeks after maternal infection, since this is the window of peak fetal risk
If Doppler suggests significant fetal anaemia or hydrops	Refer promptly to a fetal medicine unit for consideration of percutaneous umbilical blood sampling and intrauterine transfusion, guided by the degree of anaemia
If Doppler and growth remainreassuring	Continue routine antenatal care with surveillance through the risk window; most infected fetuses that avoid early hydrops do well, with no consistently reported long-term sequelae in survivors

Unlike toxoplasmosis or CMV, there is no antiviral or antiparasitic treatment for parvovirus B19 — management is entirely supportive and surveillance-based, centred on timely detection of fetal anaemia rather than maternal therapy.

HSV-1 versus HSV-2: Type-Specific Management

Management principles (suppressive antivirals from 36 weeks, caesarean for active lesions or prodrome at labour) are broadly type-independent across ACOG, FOGSI, FIGO, and RCOG. However, type-specific serology and clinical context materially change risk stratification and counselling, summarised below. Type-specific glycoprotein G serology (distinguishing HSV-1 from HSV-2 IgG) is useful mainly when a woman presents with a first clinical episode, since it clarifies whether this is a true primary infection or a non-primary first episode — a distinction that changes both counselling and the intensity of surveillance near term. Routine universal HSV serology in pregnancy remains unsupported by ACOG, FOGSI, FIGO, or RCOG.

Feature	Clinical/Management Implication
First-episode primary infection (no prior HSV-1 or HSV-2 antibody)	Highest neonatal transmission risk (up to ~30–50% with vaginal delivery near term) regardless of type; caesarean recommended if acquired in the third trimester or within 6 weeks of expected delivery
First-episode non-primary infection (new genital HSV-2 with pre-existing HSV-1 antibody, or vice versa)	Intermediate risk; partial cross-protection from heterologous antibody lowers but does not eliminate neonatal risk; manage as first episode with antivirals and individualised delivery planning
Recurrent infection (same-type antibody already present)	Lowest transmission risk (<1–2%); vaginal delivery generally acceptable if no active lesions/prodrome at onset of labour; suppressive aciclovir/valaciclovir from 36 weeks reduces recurrence and asymptomatic shedding
HSV-1 genital infection	Now a leading cause of first-episode genital herpes in many settings; recurrence and asymptomatic shedding rates are lower than HSV-2, but a true first-episode HSV-1 infection in late pregnancy still carries high neonatal risk and is managed identically to first-episode HSV-2
HSV-2 genital infection	Higher rate of recurrence and asymptomatic viral shedding at term than HSV-1, which is the main driver of population-level neonatal HSV risk; type-specific IgG (HSV-2) supports counselling on shedding risk and suppressive therapy adherence
Neonatal disease pattern	Neonatal HSV from either type can present as skin-eye-mouth, CNS (encephalitis), or disseminated disease; some series report a higher proportion of CNS involvement with neonatal HSV-1, underscoring the need for prompt neonatal aciclovir if exposure is suspected regardless of maternal type



Beyond TORCH: The Emerging "SCORTCH" Terminology

With the global resurgence of congenital syphilis, several perinatal and neonatology groups have proposed expanding the classic TORCH mnemonic to SCORTCH — Syphilis, Cytomegalovirus, Other agents, Rubella, Toxoplasmosis, Chickenpox (varicella-zoster) and Herpes simplex/blood-borne viruses. The revised term deliberately moves syphilis to the front of the acronym to prompt earlier, more consistent screening and separates varicella-zoster out as its own letter rather than folding it into "Other." The shift is terminological rather than a formal guideline change but it signals a broader move toward syndromic, risk-stratified congenital-infection screening rather than a fixed five-organism panel.

Letter	Represents
S	Syphilis
C	Cytomegalovirus (CMV)
O	Other agents — e.g. Zika, Malaria, Chagas disease, Parvovirus, Enterovirus
R	Rubella
T	Toxoplasmosis
C	Chickenpox (varicellazoster)
H	Herpes simplex virus (HSV) / bloodborne viruses — HIV, Hepatitis B and C, Human T-lymphotropic virus

Key Messages

- Universal panel testing for all TORCH organisms is not endorsed by any major body. Screening is increasingly risk-based and syndrome-driven except for rubella and syphilis, which remain universal in most programmes.
- IgG avidity testing is central to distinguishing remote from recent infection when IgM is positive across Toxoplasmosis, Rubella and CMV.
- Fetal medicine referral, targeted ultrasound, and amniotic fluid PCR (after 18 weeks) guide management once recent maternal infection is confirmed or suspected.
- Hygiene counselling remains the most effective, low-cost intervention for CMV prevention across all guidelines.
- A full TORCH panel is best reserved for specific triggers — suggestive ultrasound findings, maternal rash/fever illness or known contact exposure rather than sent routinely in low-risk pregnancies.
- Parvovirus B19 risk is timing-dependent in a distinct way from toxoplasmosis or rubella: fetal vulnerability to anaemia and hydrops peaks in the 16–28 week window and management is surveillance-based (serial MCA Doppler) rather than treatment-based.
- The proposed SCORTCH terminology reflects growing emphasis on congenital syphilis as a re-emerging, preventable cause of stillbirth and neonatal morbidity.

Suggested Reading

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HPV Vaccination

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Introduction

Human Papilloma Virus belongs to papillomaviridae family. It is a non-enveloped virus, containing circular double stranded DNA, enclosed by an icosahedral capsid. There are more than 200 known strains of HPV, which are classified into high risk and low risk types on the basis of their potential to induce invasive cervical cancer. There are mainly 12 high risk or oncogenic strains which includes – types 16,18,31,33,35,39,45,51,52,56,58 and 59. Amongst all, type 16 is the most oncogenic strain.

HPV infection mainly transmits through contact with infected genital skin/mucosa or body fluids during sexual intercourse or oral sex. 70-90% of infections are remain asymptomatic and resolves spontaneously but about 5-10% females may have persistent infection and persistence of infection by these oncogenic strains, particularly type 16 and 18, leads to Cervical Intraepithelial Neoplasia (CIN), which if further remains untreated leads to Cervical Cancer. It is the fourth most common cancer among women worldwide especially in low and middle-income countries. As of 2022, almost 6,60,000 new cases and approximately 3,50,000 deaths were reported globally.

Hence, in August 2020, World Health Assembly adopted a global strategy to eliminate cervical cancer as a public health problem under which 90-70-90 target must be achieved by each country by 2030 i.e.

- 90% of girls under 15 years of age must be vaccinated
- 70% of women must be screened by using high performance test once by 35 years and again by 45 years, and
- 90% women with pre-cancer treated while 90% with cervical cancer managed appropriately.

HPV Vaccines

The first HPV vaccine for prevention of HPV infection was licensed in 2006 and currently six HPV vaccines are licensed worldwide, but availability differs in different countries (Table 1). These vaccines are prepared by recombinant DNA and cell culture technology. The L1 structural proteins tend to self-assemble to form Virus Like Particles (VPLs), which are just HPV type specific empty shells without DNA content, hence these are not infective and imparts high vaccine safety profile.

Table 1: Different Types of HPV Vaccines

S. No.	Type of Vaccine	Strains	Name of vaccine	Manufacturer
1	Bivalent (2 strains)	Type 16,18 (High Risk)	Cervarix	GlaxoSmithKline (GSK)
			Cecolin	Xiamen Innovax Biotech Co. Ltd.
			Walrinvax	Walvax Biotechnology Co. Ltd.
2	Quadrivalent (4 strains)	Type 6,11 (Low Risk) Type 16,18 (High Risk)	Gardasil	Merck Sharp & Dohme (MSD)
			Cervavac	Serum Institute of India Pvt. Ltd.
3	Nonavalent (9 strains)	Type 6,11 (low risk) Type 16, 18, 31, 33, 45, 52 and 58 (high risk strains)	Gardasil9	Merck Sharp & Dohme (MSD)

Currently, three HPV vaccines are available in India - the indigenous quadrivalent vaccine **Cervavac** (nationally licensed for use in India), the **quadrivalent Gardasil**, and the nonavalent **Gardasil 9**.

Vaccination Schedule

HPV vaccination schedules depends on the age at initiation of vaccination, immune status and type of vaccine being administered. The manufacturer's product labels describe 2- or 3-dose schedules, but most of the organizations (like WHO, CDC, Government of India, and IAP-ACVIP) are now recommending single dose schedule for immunocompetent adolescents (Table 2). The International consensus also recommends single dose of HPV vaccine though some countries are still following two doses regimen.

Vaccine Dosage, Route and Site of Administration

The standard dose for all types of HPV vaccine is 0.5 ml via intramuscular route in the deltoid region.

Vaccine Storage

All HPV vaccines shall be stored between 2-8 degrees Celsius and must be administered as soon as possible after taking it out of refrigerator. Gardasil and Gardasil-9 are licensed to be stored for 3 days at temperatures from 8 °C to 42 °C or for 4 days at temperatures from 8 °C to 40 °C. HPV vaccine shall never be frozen and must be protected from light as they are light sensitive and direct sunlight or UV radiation may decrease vaccine potency.

Table 2: Comparison of HPV Vaccination Recommendations by Major Organizations (2026)

Parameter	IAP-ACVIP	WHO	AAP (2026)	CDC (2026)	Government of India (UIP/NIS)
Target population	Girls and boys	Primarily girls	Girls and boys	Girls and boys	Girls only
Routine age	9–14 y	9–14 y	9–12 y	11–12 y (minimum age 9 y)	14 – 15 years
Routine schedule (immune-competent)	Girls 9– <15 years: 1 dose; Boys <15: 2 doses at 0,6 months (Interval between two doses shall not be <5 months)	9–20 years : Singleor two doses schedule at 0,6 months	9 - <15 years : 2 doses at 0,6-12 months (Minimum interval between 2 doses is 5 months)	1 dose	1 dose
≥15 years at initiation	3 doses at 0,2 and 6 months (Minimum duration between 1st and 2nd dose is 1 month and between 2nd and 3rd dose is 3 months)	As per Country policy	3 doses at 0, 1-2 m and 6-12 m (Minimum duration between 1st-2nd dose is 4 weeks and between 2nd and 3rd dose is 12 weeks and between 1st and 3rd dose is 5 months)	3 doses where indicated	Not specified
Immunocompromised	3 doses	At least 2 doses but 3 doses- are recommended, wherever feasible	3 doses	3 doses	-
Catch-up	Up to 26 y; 27–45 y SCDM	Mainly ≤ 20 y	Through 26 years	Through 26 years	Not recommended under UIP
Boys	Recommended	Where feasible	Recommended	Recommended	Not included

Abbreviations: *IAP-ACVIP – Indian Academy of Pediatrics – Advisory Committee on Vaccines and Immunization Practices ; WHO – World Health Organization; CDC – Centers for Disease Control and Prevention (United States), UIP – Universal Immunization Programme, NIS – National Immunization Schedule (Government of India)*

Vaccine efficacy

The HPV vaccine is highly immunogenic with peak antibody titres achieved almost 4 weeks after the last dose followed by which, titres decline gradually over 12-18 months to attain a stable level at around 18 months. The antibody response after vaccination is 1-4 log higher as compared to after natural infection.

As per systematic review(2024), it has been reported that sustained antibody levels following a single dose of HPV vaccine provides immune-protection for up to 11 years. The major Randomized Trials done are summarized in the table 3, which demonstrates that single dose of HPV vaccine has good and comparable efficacy as compared to multi-dose schedules .

Table 3: Major Randomized Trials on HPV Vaccine

Study	Participants	Vaccine and vaccination schedule	Study Outcome
KEN SHE Trial (Kenya)[7,8]	2,275 immunocompetent girls aged 15-20 years	Single dose bivalent or nonavalent HPV vaccine	Efficacy against persistent HPV 16/18 infection– ● At 18 months: 97% ● At 36 months: 95%
DoRIS Trail (Tanzania)[9]	Girls aged 914 years	Single dose Vs two-or three dose schedules	Efficacy against persistence HPV16/18 ~97.5%. Single dose is non-inferior to 2- or 3-dose schedule
Costa Rica Vaccine Trial (CVT)[10]	Large cohort study in women aged 1825 years	Single dose of bivalent HPV vaccine	Durable antibody presence and stable protection against HPV 16/18 for 10-16 years
India IARC Cohort Study[11]	17,729 healthy, unmarried girls aged 10-18 years	Single dose quadrivalent HPV vaccine compared with multi-dose schedules [3 doses, 2 doses (0,2 months) and 2 doses (0,6 months)]	● Vaccine efficacy of 92-95% against persistent HPV16/18 infection with a single-dose regimen at 12 years follow up. ● Protection with one dose was comparable to two and three doses.

Myths and facts about HPV vaccine

Despite the well-established safety profile, strong immunogenicity, and proven effectiveness of HPV vaccines, cervical cancer continues to remain a major public health concern worldwide because of various myths revolving around HPV vaccination. Vaccine hesitancy, driven by misinformation, remains a major global barrier in achieving optimal vaccine coverage and reducing the burden of HPV-related cancers and other diseases. The major myths and facts related to HPV vaccine is as mentioned in table 4.

Table 4: Major Myths and facts

S.No.	Myth	Fact
1.	PAP smears and annual check-ups are effective with no need for vaccination	PAP smear is just a screening test to detect pre-cancerous lesions and aids in early detection and management. HPV vaccination helps in primary prevention of HPV infection.
2.	HPV vaccines are new with no safety and efficacy data on long-term effects	HPV vaccines are in market for past more than15 years with millions of doses already administered worldwide. The common side effects are welldocumented in literature and vaccine safety has been confirmed by WHO and CDC.
3.	Children are not sexually active, so there is no need to vaccinate children early.	Vaccination before 15 years of age , needs fewer doses and leads to better immune response, hence earlier we vaccinate , better would be thepreventive efficacy.
4.	Males do not get cervical cancer , so there is no need to vaccinate boys	HPV is also linked to genital warts as well as penile, anal and oropharyngeal cancers. Also, vaccinating males would reduce community transmission and provides herd immunity against HPV infection.
5.	The vaccine is not effective after the first sexual intercourse.	Clinical trials have shown vaccine efficacy of >90% in sexually active women
6.	Natural HPV infection creates protective antibodyresponse, hence there's no need for vaccination	Antibody response after natural HPV infection is low. HPV vaccination provides strong immune response and thus robust protection against subsequent HPV infection
7.	HPV vaccination increases the risky sexual behaviour and promiscuity	There is no such evidence that HPV vaccination increases sexual promiscuity.
8.	HPV vaccine can lead to ovarian failure	Observation of over 1 million females have shown that there is no correlation between HPV vaccination and ovarian failure.
9.	HPV vaccine leads to increased risk of autoimmune diseases, neurological disorders and death.	Incidence of these conditions are same in vaccinated as well as unvaccinated individuals.

Vaccine safety and Side-effects

As per the Global Advisory Committee on Vaccine Safety, the vaccine safety is being monitored on regular basis, and no safety concerns have been raised till date except for rare case reports of anaphylaxis.

The known side-effects are mainly local site pain, redness and swelling, rarely headache, dizziness, myalgia, arthralgia and gastrointestinal symptoms (nausea, vomiting, abdominal pain) are also reported.

Contraindications

In the following conditions HPV vaccine administration is contraindicated –

1. Anaphylaxis after the first dose or history of severe allergic reaction to any of the vaccine components.
2. Pregnant females though pregnancy testing prior to vaccination is not required. And if after vaccination, pregnancy is detected, then no further action or termination of pregnancy is not indicated.

Precautions

People with moderate to severe acute illness with or without fever shall not be vaccinated and preferably wait until recovery.

Key Messages

1. The most oncogenic strains of HPV vaccine are type 16 and 18.
2. Single dose of HPV vaccine is as efficacious as multi-dose schedule.
3. All unmarried girls, in reproductive age group, > 9 years of age must be vaccinated before the commencement of sexual activity to eliminate it as a public health problem.

Suggested Reading

1. Demarco M et al. A study of type-specific HPV natural history and implications for contemporary cervical cancer screening programs. EClinicalMedicine. 2020; 22:100293.
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Beyond PPTCT: Current Updates in HIV Care and Elimination of Vertical Transmission

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Introduction

Human Immunodeficiency Virus (HIV) infection remains an important public health concern despite major advances in diagnosis, treatment, and prevention. In India, interventions to prevent vertical transmission of HIV were initiated in 2002 under the second phase of the National AIDS Control Programme (NACP). A major milestone was the introduction of the "test-and-treat" strategy in 2017, which recommends immediate initiation of antiretroviral therapy (ART) for all individuals diagnosed with HIV, irrespective of CD4 count. Consistent adherence to ART can suppress the viral load to undetectable levels, improving maternal health and effectively preventing sexual and vertical transmission of HIV. This principle, known as "Undetectable = Untransmittable" (U=U), forms the cornerstone of modern HIV management in pregnancy and has played a crucial role in bringing the goal of eliminating mother-to-child transmission within reach.

Over the past two decades, the Prevention of Parent-to-Child Transmission (PPTCT) programme has significantly reduced vertical transmission of HIV, shifting the focus from prevention alone to the elimination of vertical transmission of HIV and syphilis under the Elimination of Vertical Transmission of HIV and Syphilis (EVTHS) initiative.

Burden of HIV in Pregnancy

As per 2022-23 epidemiological data, the HIV epidemic level continues to be low nationally with adult (15-49 yrs) HIV prevalence at 0.20%. With an estimated 25.44 lakh PLHIV (People Living with HIV)in the country, India has the second largest HIV epidemic in the world, accounting for about 6.3% of all PLHIV worldwide.

National AIDS and STD Control Program phase V is dedicated towards achieving the global 95-95-95 targets for Elimination of Vertical Transmission of HIV and Syphilis (EVTHS) by 2026 and ending the AIDS epidemic by 2030.

Understanding Vertical Transmission

Mother-to-child transmission may occur:

- During pregnancy (in utero)
- During labour and delivery (intrapartum)
- During breastfeeding (postnatal).

The number of Annual New HIV Infections in 2022 was estimated to be around sixty-six thousand. Out of this, children between the age of 0-14 years accounted for 6% of the total annual new infections.

Universal HIV Screening in Pregnancy

Current guidelines recommend universal opt-out HIV testing for all pregnant women at the earliest antenatal visit, regardless of risk factors. Women presenting later in pregnancy should be tested immediately, partner testing is encouraged, and repeat testing may be considered for those with ongoing risk. Early HIV diagnosis is essential for

effective prevention of parent-to-child transmission (PPTCT).

Table 1. Risk of Vertical transmission of HIV with or without interventions

ARV intervention	Risk of HIV transmission from mother to child
No ARV, breastfeeding	**30-45%**
No ARV, No breastfeeding	**20-25%**
3 ARVs (ART), with breastfeeding	**2%**
3 ARVs) (ART), with no breastfeeding	**1%**

ART: The Foundation of PPTCT

The most significant advancement in PPTCT has been the policy of lifelong ART for all pregnant women living with HIV, irrespective of CD4 count or clinical stage. Current preferred regimens are Dolutegravir (DTG)-based combinations due to:

- Rapid viral suppression
- High efficacy
- Better tolerability
- Lower rates of drug resistance.

The primary objective is achieving an undetectable viral load before delivery.

Antenatal Care

Pregnant women living with HIV require routine antenatal care along with additional evaluations to reduce the risk of vertical transmission. Essential assessments include baseline CD4 count, viral load estimation, screening for tuberculosis, hepatitis B and C testing, syphilis screening, and regular assessment of adherence to antiretroviral therapy (ART). Among these, maternal viral load monitoring is the most important predictor of transmission risk. An undetectable viral load near delivery, has an extremely low likelihood of transmitting HIV to their infant.

Obstetric and Intrapartum Management

HIV infection alone is not an indication for termination of pregnancy or elective caesarean section. The mode of delivery should be guided by obstetric indications and the mother's viral suppression status. During labour, ART should be continued without interruption, and standard obstetric care should be maintained. Unnecessary invasive procedures, prolonged rupture of membranes, fetal scalp electrodes, and instrumental deliveries should be avoided whenever possible. Universal precautions must be followed by healthcare workers.

Neonatal Management and Early Infant Diagnosis

All HIV-exposed infants should receive antiretroviral prophylaxis as soon as possible after birth, preferably within 6–12 hours. Cotrimoxazole prophylaxis, scheduled HIV testing, and regular growth and developmental monitoring are important components of follow-up care. Early Infant Diagnosis using HIV PCR testing enables prompt detection and treatment of infection, significantly improving infant outcomes.

Infant Feeding

Infant feeding counseling should be individualized. In settings where safe replacement feeding is not consistently feasible, exclusive breastfeeding with continued maternal ART is recommended. Mixed feeding should be avoided during the first six months. Maternal adherence to ART, regular follow-up, and nutritional

support remain essential to minimize postnatal HIV transmission.

The New Goal: Elimination of Vertical Transmission

Under **NACP Phase V**, the Prevention of Parent-to-Child Transmission (PPTCT) framework has been expanded into a broader **Elimination of Vertical Transmission of HIV and Syphilis (EVTHS).** The objective is not merely reducing transmission but eliminating it as a public health problem. The strategy is based on four key pillars. (Table2)

This approach focuses on:

1. *Universal Antenatal Screening* – Test every pregnant woman for HIV and syphilis at the earliest ANC visit.
2. *Early Treatment Initiation* – Prompt ART for HIV-positive women and timely treatment for syphilis.
3. *Integrated Maternal Care* – Link HIV services with routine antenatal, intrapartum, and postnatal care.
4. *Family Planning Services* – Prevent unintended pregnancies through counselling and contraceptive access.
5. *Retention in Care* – Ensure adherence to ART, viral load monitoring, and regular follow-up.
6. *Care of Exposed Infants* – Provide prophylaxis, early infant diagnosis, immunization, and continued monitoring.
7. *Reaching High-Risk Groups* – Use targeted outreach for vulnerable and underserved populations.
8. *Strong Health Systems* – Maintain efficient referral networks, data systems, and uninterrupted supply of medicines and diagnostics.
9. *Partnership and Community Engagement* – Involve healthcare providers, communities, and private sector partners to achieve elimination goals.

Table 2 - The Four-pronged Strategy for EVTHS

Prong 1	Prong 2	Prong 3	Prong 4
Primary prevention of HIV, especially among women of reproductive age-group	Prevention of unintended pregnancies among WLHIV (Women Living with HIV)	Prevention of vertical transmission of HIV and Syphilis during pregnancy and childbirth	Provision of care and management services for infected women and their exposed/ infected children during post-natal and breast-feeding period

Challenges Ahead

Despite significant progress in the prevention of mother-to-child transmission of HIV, challenges such as late antenatal registration, missed testing opportunities, stigma, poor adherence to antiretroviral therapy, and loss to follow-up after delivery continue to hinder programme success. Overcoming these barriers requires strengthened counselling, improved awareness, and coordinated efforts among obstetricians, paediatricians, and public health services.

Conclusion

The management of HIV in pregnancy has undergone a remarkable transformation, making mother-to-child transmission largely preventable when timely and appropriate interventions are implemented. Universal antenatal HIV screening, early initiation of lifelong antiretroviral therapy, regular viral load monitoring, safe

obstetric practices, and appropriate neonatal prophylaxis are the key components of successful prevention of parent-to-child transmission (PPTCT). Viral load suppression remains the most important factor in reducing transmission risk, and with effective treatment, many women can safely have a vaginal delivery. HIV-exposed infants require timely prophylaxis, early infant diagnosis, and structured follow-up to ensure optimal outcomes. As India moves closer to the goal of eliminating vertical transmission, continued efforts by obstetricians and healthcare teams are essential to ensure healthy mothers and HIV-free children.

Key Messages

- Every pregnant woman should undergo HIV screening.
- ART should be initiated immediately after diagnosis.
- Viral load suppression is the strongest determinant of successful PPTCT.
- Vaginal delivery is acceptable in appropriately managed women.
- HIV-exposed infants require prophylaxis and structured follow-up.
- Early infant diagnosis is essential.
- Elimination of vertical transmission is now an achievable goal.

Flowchart 1. Care Continuum for Elimination of Vertical Transmission

1. Screening & Diagnosis
Universal HIV testing at the earliest ANC visit; test immediately if presenting late.

↓

2. ART Initiation
Start lifelong ART immediately if HIV positive; DTG-based regimens are preferred.

↓

3. Antenatal Monitoring
CD4, viral load, TB, hepatitis B/C and syphilis screening; assess ART adherence.

↓

4. Obstetric & Intrapartum Management
Individualize mode of delivery; continue ART and avoid unnecessary invasive procedures.

↓

5. Neonatal Management
Start neonatal ARV prophylaxis as soon as possible after birth; provide feeding counselling.

↓

6. Early Infant Diagnosis
HIV PCR-based testing and scheduled follow-up of HIV-exposed infants.

↓

7. Long-term Follow-up

Continue maternal ART and viral-load monitoring; ensure infant follow-up and support.

Suggested Reading

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Upcoming Events

1. CME: Masterclass in Genetics for Obstetricians September 2026
2. CME: Stillbirths - Prevenion, Predicion & Management October 2026

Parvovirus infection in Pregnancy: Current Perspectives on Diagnosis & Management

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Introduction

Parvovirus B19 is a nonenveloped, icosahedral virus that contains single-stranded linear DNA. This pathogen belongs to the family Parvoviridae and genus *Erythroparvovirus*. The viral genome encodes nonstructural proteins (NS1), which are essential for viral replication, and structural proteins (VP1and VP2), which form the viral capsid. The virus infects humans specifically because it requires the P antigen (globoside) as a cellular receptor, which is expressed on erythroid progenitor cells, megakaryocytes, endothelial cells, and placental tissue. The virus lacks the enzymatic machinery for independent replication and therefore requires actively dividing host cells, explaining its predilection for rapidly dividing erythroid progenitor cells in the bone marrow.

Epidemiology

Parvovirus B19 infection occurs worldwide and affects people of all races and ethnicities. The virus is most common in school-aged children, with peak incidence occurring between 5 and 15 years of age. Outbreaks are more frequent in late winter and early spring, every 3-6 years. B19 virus is primarily transmitted by respiratory route; other transmission routes include hand to mouth contact, blood or blood products transfusion and placental transmission. Exposure to an infected individual is associated with a 50% risk of maternal infection and 17% to 33% risk of fetal infection.

Pathophysiology

Viremia occurs 5-10 days after the inoculation of virus into the body and this marks the beginning of prodromal phase which includes fever, malaise, myalgias and headache. The IgM antibody appears during the viremic phase which is 8-10 days post-inoculation. During this phase reticulocytopenia occurs and lasts for 7-10 days due to viral tropism for erythroid precursor cells in the bone marrow. IgG appears one week after the appearance of IgM and coincides with the onset of characteristic rash and arthralgia. If an individual is immunocompetent, he is no longer infectious after the appearance of rash and arthralgia because of the antibody response.

Clinical Presentation

The clinical presentation of parvovirus infections varies widely, ranging from mild or asymptomatic cases to severe disease. Its presentation varies in neonates, children, adults and pregnancy.

(a) Manifestation in Adults and Children

Erythema Infectiosum (Fifth Disease): It starts with the prodromal phase as mentioned above which is followed by the characteristic exanthema typically 16 to 17 days later during which time the patient is non-contagious.

The rash has a characteristic "slapped cheek" appearance in which there is bright erythema of the malar eminences bilaterally, with circumoral pallor, sparing the central facial structures, including the nose and mouth. This facial finding represents the most recognizable feature of fifth disease and is most prominent in children. Adult patients may not develop the characteristic facial rash but instead present with other manifestations.

Polyarthralgia or Polyarthritis: Arthralgia or arthritis affecting small joints like hands, wrists, feet, ankles and knees is a prominent feature. It occurs in only 10% of infected children but 60%-80% of adult women.

Aplastic Crisis: Parvovirus destroys erythroid progenitor cells, leading to acute erythroblastopenia. This transient hematopoietic status represents a serious complication in individuals with preexisting conditions associated with reduced red blood cell production, eg, iron deficiency anemia or chronic hemolytic anemia (eg, sickle cell disease, thalassemia, hereditary spherocytosis) and enzyme deficiencies like pyruvate kinase or glucose-6-phosphate dehydrogenase deficiency.

(b) Manifestation in Pregnancy

When B19 virus infects a pregnant woman, joint pains are usually the only symptoms present in up to 50% of women. In 30-50% of cases, the infection is transmitted vertically to the fetus and in rest of the women, it resolves spontaneously. However, fetal infection can cause severe complications such as fetal loss, anemia, and fetal hydrops (abnormal presence of fluid in the fetus). Polyhydramnios (increased amniotic fluid) and placentomegaly (placental thickness >6 cm) are often associated with it.

The risk of transmission is highest when maternal infection occurs before 20 weeks of gestation, particularly during the first and second trimesters. The likelihood of spontaneous abortion is also most significant during this period.

After 20 weeks of gestation, the virus preferentially targets fetal erythroid precursors in the liver and bone marrow, leading to severe fetal anemia. This anemia can progress to high-output cardiac failure, resulting in hydrops fetalis and, in some cases, fetal death. Hydrops fetalis is defined as the abnormal accumulation of fluid in 2 or more fetal compartments, eg, ascites, pleural effusion, pericardial effusion, or generalized skin edema (anasarca) and it most commonly develops during the second trimester.

Despite these potential complications, patients should be reassured that the overall risk of fetal loss due to parvovirus B19 infection in pregnancy remains relatively low—approximately 2% to 6%. The virus is not routinely included in preconception screening panels. Fortunately, most infants born to mothers infected with parvovirus B19 during pregnancy are asymptomatic, born at term and without long-term sequelae.

(c) Manifestation in Neonates

Generally, there is no long-term neurological morbidity in the absence of

fetal hydrops and anemia, but long-term neurological sequelae may be associated, especially in those cases requiring multiple intrauterine transfusions.

Diagnosis

The preferred diagnostic method for acute parvovirus B19 infection is measurement of serum anti-B19 IgM antibody levels by enzyme-linked immunosorbent assay (ELISA). A positive IgM antibody indicates an acute or recent infection within the previous 2 to 4 months. The IgG antibody will be positive in patients with past infection and indicates immunity. In immunocompromised patients who may not mount an adequate antibody response, PCR testing for viral DNA from serum or tissue samples can be utilized and provides high sensitivity and specificity. PCR may also be useful for detecting infection in-utero through amniocentesis or for confirming chronic infection.

Treatment

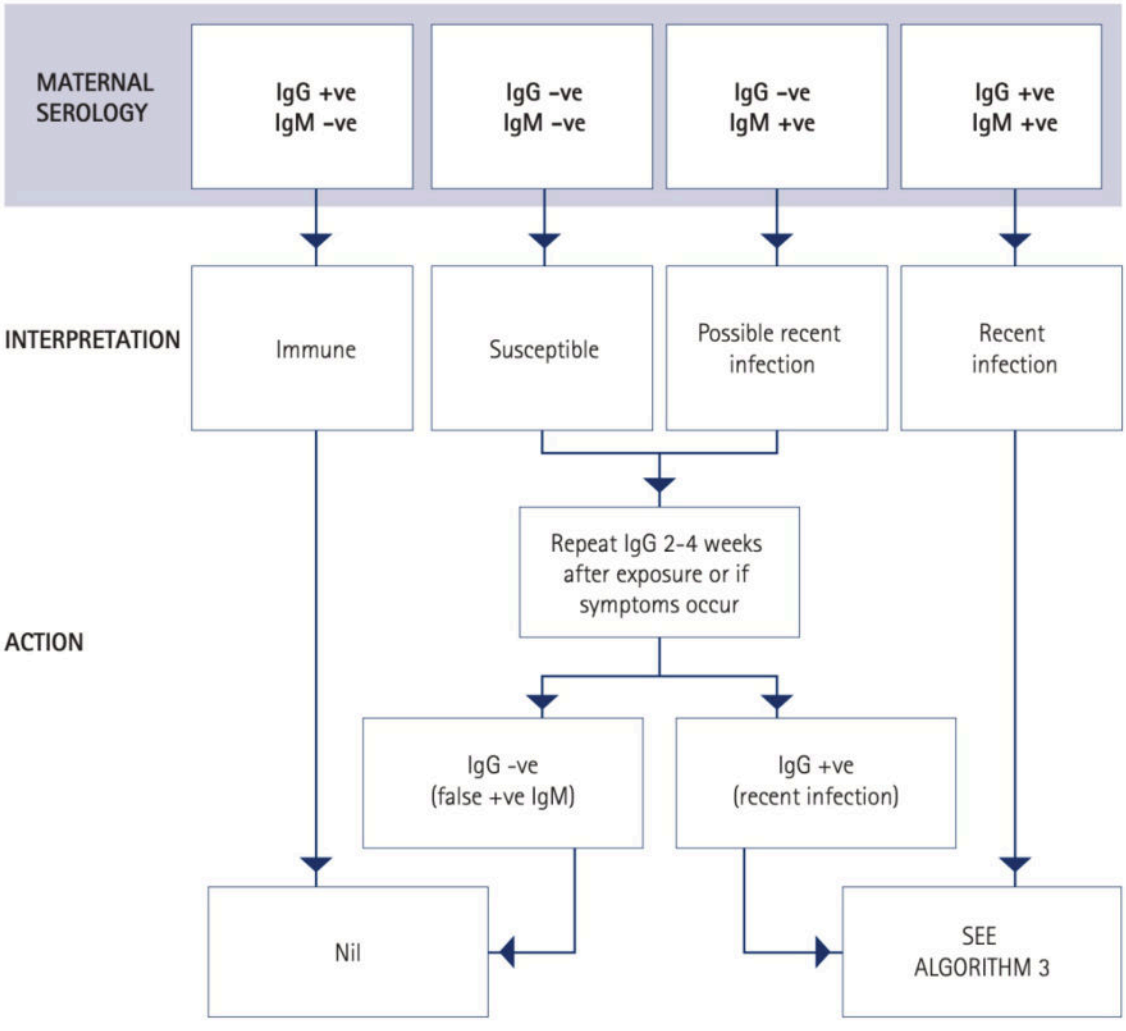
Treatment is typically symptomatic and supportive for most manifestations of parvovirus B19 infection. Children with erythema infectiosum usually feel well during the infection despite the rash and do not require specific antiviral treatment. If arthropathy is present and causing significant discomfort, nonsteroidal anti-inflammatory drugs (NSAIDs) can be used for symptomatic relief. Red blood cell transfusions should be administered to patients experiencing an aplastic crisis to correct severe anemia and maintain adequate oxygen-carrying capacity. The following flowchart gives an insight in the management and follow up of parvovirus infection in pregnancy.

Complications

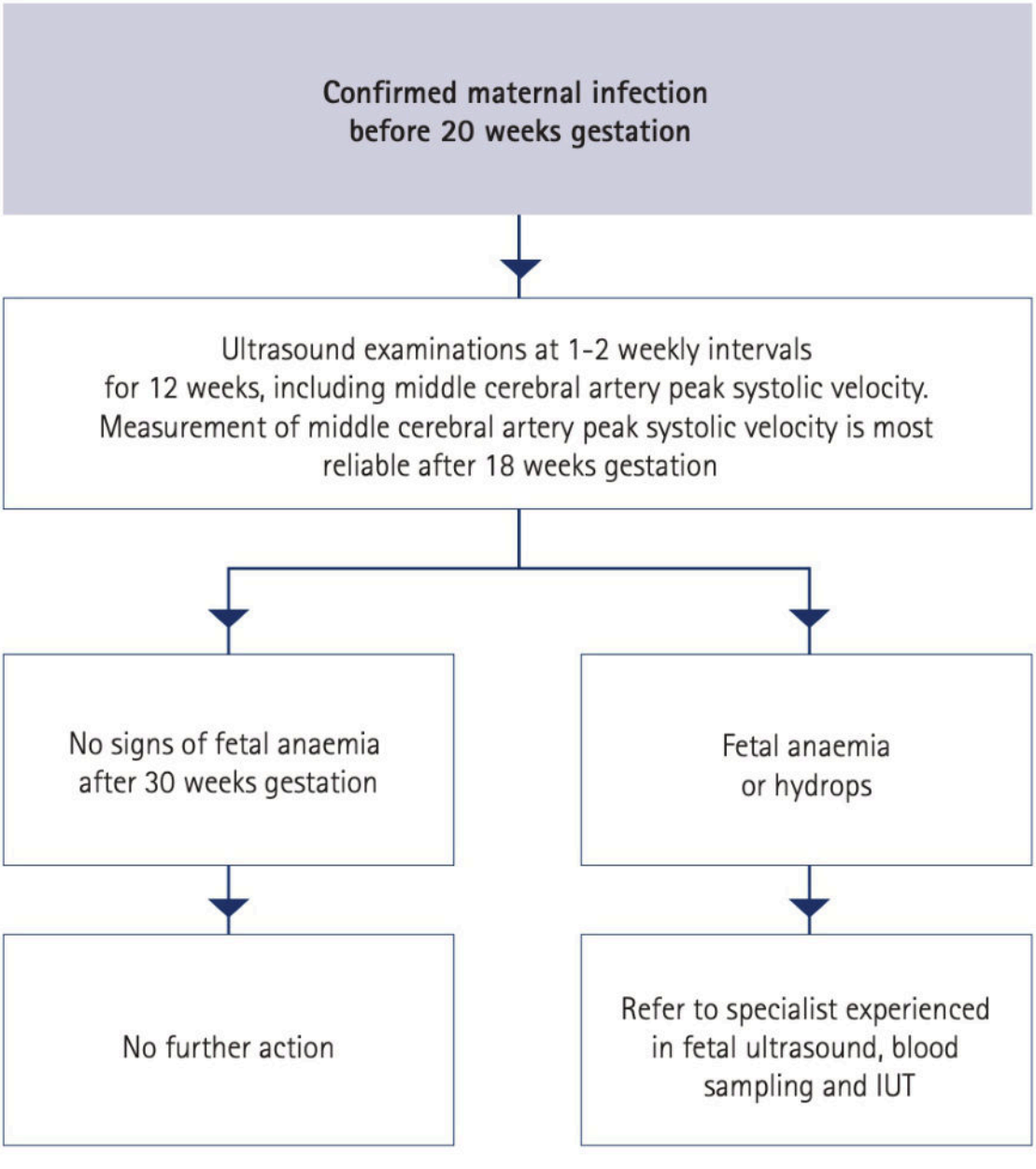
Complications of parvovirus B19 infection vary depending on the host's underlying immune competence. In healthy children, complications are rare. In patients with chronic hemolytic anemias, transient aplastic crisis can result in severe, life-threatening anemia requiring urgent transfusion support. In pregnant women, fetal complications include miscarriage, hydrops fetalis, fetal anemia, congestive heart failure, and fetal demise, particularly with infection during the first and second trimesters. Immunocompromised patients may develop chronic infection with persistent anemia requiring ongoing treatment. Rare complications include acute myocarditis, encephalitis, hepatitis, and hemophagocytic lymphohistiocytosis. Chronic arthropathy, though uncommon, has been reported following acute parvovirus B19 infection, particularly in adult women.

Patient Education

It should be made clear that once the characteristic slapped cheek rash of erythema infectiosum develops the patient is no longer contagious. Pregnant women should be advised to practice good hand hygiene and avoid close contact with individuals known to have parvovirus B19 infection, particularly during outbreaks in schools or daycare settings. Currently, no vaccine is available to prevent parvovirus B19 infection. Patients with chronic hemolytic anemias should be educated about the signs and symptoms of aplastic crisis, including fatigue, pallor and decreased reticulocyte count and instructed to seek prompt medical attention if these develop.



Parvovirus: ASID Algorithm 2-Antenatal Diagnosis and Management. Reproduced with permission from the Australasian Society for Infectious Diseases (ASID) Guidelines, 3rd edition, 2022.


Confirmed maternal infection
before 20 weeks gestation
Ultrasound examinations at 1-2 weekly intervals
for 12 weeks, including middle cerebral artery peak systolic velocity.
Measurement of middle cerebral artery peak systolic velocity is most
reliable after 18 weeks gestation
No signs of fetal anaemia
after 30 weeks gestation
Fetal anaemia
or hydrops
No further action
Refer to specialist experienced
in fetal ultrasound, blood
sampling and IUT

Key Messages

- Parvovirus B19 infection in pregnant women, results in vertical transmission in 30-50% cases.
- Fetal infection can cause severe complications such as fetal loss, anemia, and fetal hydrops (abnormal presence of fluid in the fetus), Polyhydramnios (increased amniotic fluid) and placentomegaly (placental thickness >6 cm).
- No intervention is available to prevent fetal infection or damage
- Amniocentesis for diagnosis of asymptomatic intrauterine fetal infection is not recommended
- Pregnancy should be monitored by serial ultrasound examination to detect fetal anemia
- Fetal blood sampling may be required to monitor for anemia and thrombocytopenia
- Doppler assessment of the fetal middle cerebral artery peak systolic velocity is an accurate tool for the determination of fetal anemia from 16-34 weeks' gestation, providing a noninvasive alternative to cord blood sampling
- If anemia and/or thrombocytopenia reach a critical level, IUT may be required
- Infants in whom hydrops has occurred and resolved should be monitored for evidence of anemia

Suggested Readings

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Quiz: Viral Infections in Pregnancy

1. A pregnant lady develops chickenpox. During which part of her pregnancy will it lead to highest chance of neonatal infection?

   A. Last 5 days

   B. 12–16 weeks

   C. 8–12 weeks

   D. 16–20 weeks

2. Infections transmitted to baby at delivery are all except:

   A. Toxoplasmosis

   B. Gonococcus

   C. Herpes simplex type 2

   D. Hepatitis B

3. A 30-year-old homeless pregnant female is admitted to the labor ward in active labor. She is unbooked and unimmunized; her blood investigations were sent and she is positive for HIV by rapid kit test. False regarding her management is:

   A. She should be given i.v. zidovudine

   B. Plasma viral load decides the mode of delivery

   C. Baby should receive zidovudine and nevirapine

   D. Await laboratory confirmation of HIV before starting intrapartum ART

4. Which of the following is recommended as treatment for early syphilis diagnosed by a positive VDRL and fluorescent treponemal antibody absorption test (FTA-ABS) during pregnancy, in a woman who reports being penicillin allergic?

   A. Doxycycline per oral

   B. Sensitivity testing and procaine penicillin IM stat with probenecid

   C. Desensitization and benzathine penicillin IM stat

   D. Ceftriaxone IM

5. In a pregnant female with primary genital herpes lesions, what is the risk of the baby developing neonatal herpes if she has a vaginal delivery?

   A. 10%

   B. 20%

   C. 30%

   D. 40%

6. All are the manifestations of congenital CMV infection except:

   A. Stillbirth

   B. Microcephaly

   C. Cardiac defects

   D. Deafness

7. Which of the following is a known effect of dengue on the fetus, if the mother is dengue positive ?

   A. Abortion

   B. Teratogenicity

   C. FGR

   D. None of the above

8. Triad of congenital toxoplasmosis includes all except:

   A. Chorioretinitis

   B. Myocarditis

   C. Hydrocephalus

   D. Intracranial calcifications

9. A 26-year-old pregnant female is referred by a general practitioner because of recent contact with a friend with chickenpox, and she is not immune to infection. What is your immediate plan of care?

   A. Offer one single dose of varicella zoster immunoglobulin (VZIG) as soon as possible

   B. Offer a two-dose course of VZIG, first within 72 hours of exposure

   C. Start acyclovir and give for 5 days

   D. Offer varicella vaccination

10. A 36-year-old primigravida complains of acute gastroenteritis with off and on fever at 32 weeks of gestation. She is found to be positive for SARS-CoV-2. She had accidental hemorrhage and delivers a 1.9 kg baby by LSCS, 2 days after testing positive. What advice do you give her now?

    A. Baby will have to be isolated and top feed for 14 days from onset of symptoms

    B. Baby may room in and breastfeed, but kangaroo mother care is not recommended when mother is SARS-CoV-2 positive till 14 days from onset of symptoms

    C. Baby may breastfeed; rooming in and kangaroo care are not recommended till 14 days from onset of symptoms

    D. Baby may room in, breastfeed, have kangaroo care right from birth

ISOPARB-DELHI CHAPTER: REPORT OF MONTHLY CME

The Delhi Chapter of ISOPARB organized a CME on **"Safe Motherhood"** on 2nd May 2026 at **Sir Gangaram Hospital**, Rajender Nagar, Delhi. The event began with a welcome address and the formal handing over of office of ISOPARB, Delhi Chapter, marking a transition in the chapter's leadership and setting the tone for the sessions ahead.

The session on didactic lectures "With You, Through Pregnancy & Beyond," covered the complexity and perplexity of hyperemesis in pregnancy, prenatal testing and vaccination before and during pregnancy, offering practical, up-to-date guidance for everyday obstetric practice.

This was followed by an engaging panel discussion on high-risk pregnancy, bringing together moderators and a panel of experts to deliberate on the challenges of identifying, monitoring and managing high-risk cases, with several case-based discussions enriching the conversation.

The sessions saw active audience participation, with delegates engaging closely with the faculty throughout the afternoon reaffirming ISOPARB-Delhi's continued commitment to safe motherhood initiatives and knowledge-sharing among peers.



Workshop for ASHA Workers on 25th May 2026 on **"Menstrual Health: From Silence to Support,"** was held at **Deep Chand Bandhu Hospital**, Delhi. The workshop aimed to strengthen the knowledge and confidence of ASHA workers, who play a vital role as the first point of contact for menstrual health awareness in the community.

The sessions covered essential aspects of menstrual health and hygiene, an overview of available menstrual products and their appropriate use, and common menstrual problems seen in adolescents and women. A dedicated session on breaking myths around periods addressed prevailing misconceptions and social stigma, encouraged open conversation on the subject.



A CME on "**Navigating Adolescence: A Clinical Toolkit"** was held on 21st June 2026 at **Sant Parmanand Hospital**, Delhi. The day-long programme, brought together experts to address key clinical challenges in adolescent gynecology, structured across three focused sessions.

Session one covered PCOS — the dilemma of over-diagnosis and over-treatment, amenorrhea in adolescents and its diagnostic challenges and menstrual hygiene. Session 2 addressed HPV vaccination updates, the challenges and outcomes of teenage pregnancies, and contraception in teenagers, focusing on practical counselling approaches for this age group.

The programme concluded with an engaging panel discussion on abnormal uterine bleeding in adolescents, bringing together a panel of experts to deliberate on diagnostic work-up and management approaches to this common yet often complex presentation, with several real-world case discussions.

The sessions saw active audience participation, with delegates engaging closely with the faculty across all three sessions and raising several clinically relevant questions. The CME reaffirmed ISOPARB-Delhi's continued focus on equipping clinicians with practical, evidence-based tools for adolescent



healthcare

CME on 22nd July on **"Hidden Threats: Viral Infections in Womens' Health" was held at Baba Saheb Ambedkar Medical College & Hospital.** The program brought together eminent faculty to address an often-under-discussed area of perinatal and reproductive care, drawing enthusiastic participation from about 75 delegates across the city.

The scientific sessions opened with a detailed discussion on Congenital CMV, covering the spectrum from prevention strategies to precision medicine approaches in diagnosis and management. This was followed by a session on fetal therapy for viral infections, exploring emerging treatment options for intrauterine infections, and a talk on viral infections and female fertility, highlighting their impact on reproductive outcomes and counselling approaches for affected couples.



The program concluded with a lively panel discussion on viral infections in pregnancy, covering viral hepatitis, chickenpox, parvovirus and HIV, with panelists sharing practical, case-based insights on screening, prevention and management. The interactive format encouraged active audience engagement, with delegates raising clinical queries and sharing their own experiences throughout the sessions.

Bhanu Priya, Professor, Dept. of Obstetrics & Gynaecology, UCMS & Guru Teg Bahadur Hospital, Delhi

Non-invasive prenatal diagnosis of congenital cytomegalovirus infection using maximum trophoblast thickness and biomarkers in maternal blood and urine in first trimester

Bourgon N, Fernandez M, Chatzakis C et al. Ultrasound Obstet Gynecol. 2025 Nov;66(5):598-605. doi: 10.1002/uog.70019. Epub 2025 Oct 6. PMID: 41047886.

Abstract

Objective: Congenital cytomegalovirus (CMV) infection, a leading cause of sensorineural hearing loss and neurological impairment, is typically diagnosed by second-trimester amniocentesis, delaying clinical decision-making. This study aimed to assess the predictive value of maximum trophoblast thickness (MTT) measured by first-trimester three-dimensional (3D) ultrasound, in combination with maternal biomarkers, for the early prediction of CMV vertical transmission.

Methods: A retrospective cohort study included 127 pregnant women with primary CMV infection in early pregnancy who were referred between October 2019 and May 2024. MTT measurement was performed using 3D multiplanar ultrasound between 11 + 0 and 14 + 6 weeks' gestation by two independent observers. Maternal characteristics, including first-trimester maternal biomarkers and CMV polymerase chain reaction (PCR) status in the maternal blood and urine and timing of valacyclovir treatment were recorded. Vertical transmission was confirmed by CMV-PCR in chorionic villi (CV) and/or amniotic fluid (AF). Logistic regression and receiver operating characteristic (ROC) curve analyses were performed to evaluate predictive performance.

Results: Of the 127 participants, 120 (94.5%) received valacyclovir for secondary prevention. MTT was significantly higher in cases with a positive CMV-PCR result in AF compared to those with a negative result (median, 21.3 mm vs 17.1 mm; P = 0.017). Interobserver reproducibility for MTT measurement was high (ICC = 0.827). An MTT threshold of 19.0 mm predicted vertical transmission with 83.3% sensitivity. A combined model incorporating MTT, first-trimester maternal blood CMV-PCR positivity, and delayed valacyclovir initiation (>10 weeks) achieved excellent predictive accuracy (AUC = 0.94), with 80.0% sensitivity, 93.3% specificity, 57.1% positive predictive value, and 97.7% negative predictive value.

Editor's Comment: This clinically relevant study explores an innovative non-invasive strategy for early detection of congenital CMV infection by combining ultrasound-derived maximum trophoblast thickness with maternal blood and urinary biomarkers. The multimodal approach is particularly promising for first-trimester risk stratification and could reduce invasive testing. Larger prospective validation studies are warranted.

REBACIN® can remove high-risk Human Papillomavirus (HPV) persistent infection efficiently as an effective non-invasive treatment: a multicenter prospective study

Li JJ, Yang SS, Chen KJ, Jiang LS, Fang YX, Liu CL, Wang S, Ye C, Yao LF, Chen YQ, Li X, Jiang J, He FM, Ling YL, Zhou SG. World J Surg Oncol. 2026 Apr 25;24(1):283. doi: 10.1186/s12957-026-04378-4.

Abstract

Objective: To evaluate the efficacy of REBACIN® as a non-invasive treatment for persistent high-risk HPV (HR-HPV) clearance compared with interferon and no treatment, identify optimal cutoff values for HPV E6/E7 mRNA/DNA assays, analyse clinical predictors, and validate REBACIN® as a safe alternative to invasive interventions for cervical cancer prevention.

Methods: This multicenter prospective study enrolled 862 women aged 18–70 years with persistent HR-HPV infection for more than 12 months and no high-grade cervical lesions. Participants were allocated to REBACIN®, recombinant human interferon α-2b, or an untreated control group. REBACIN® and interferon were administered intravaginally every other day for three months. HPV clearance was assessed four months after treatment using HPV-DNA genotyping or HPV E6/E7 mRNA testing. Factors associated with viral clearance were evaluated using logistic regression and receiver operating characteristic analysis.

Results: Among women assessed using HPV E6/E7 mRNA, HR-HPV clearance was achieved in 54.9% of the REBACIN® group, compared with 24.5% in the interferon group and 20.6% in controls (P<0.001). In the HPV-DNA cohort, clearance rates were 64.0%, 35.6%, and 22.1%, respectively. REBACIN® demonstrated significantly higher clearance and response rates than both comparison groups. Baseline HPV E6/E7 mRNA showed good predictive performance for clearance in the REBACIN® group, with an AUC of 0.92 and an optimal cutoff of 15.47 RLUs. Age ≥50 years, multiple HPV infection, and HPV52 positivity were independently associated with lower clearance probability.

Editor's comment: This multicentre prospective study evaluates REBACIN®, a proprietary engineered antiviral biological agent comprising specific antiviral proteins and macromolecular active factors designed to inhibit HPV E6/E7 oncogene expression and restore host tumour-suppressor pathways. The promising clearance rates are encouraging; however, its proposed mechanism requires independent validation, alongside randomized trials and long-term histological outcomes.

ANSWERS FOR THE QUIZ

1. A. Last 5 days
2. A. Toxoplasmosis
3. D. Await laboratory confirmation of HIV before starting intrapartum ART
4. C. Desensitization and benzathine penicillin i.m. stat
5. D. 40%
6. C. Cardiac defects
7. D. None of the above
8. B. Myocarditis
9. A. Offer one single dose of varicella zoster immunoglobulin (VZIG) as soon as possible
10. D. Baby may room in, breastfeed, have kangaroo care right from birth.

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Dr. Veronica Arora

CONSULTANT – CLINICAL GENETICS

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- ECMGG – European College of Medical Genetics
- Master's in Neurometabolism University of Barcelona, Spain

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DECODING THE GENETICS BEHIND RECURRENT PREGNANCY LOSS

Bringing Genomic Medicine to Reproductive Health

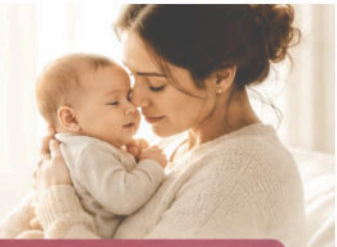
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