

# CONNECT



2019/2020 Council Issue 5

EMBRACING, ENGAGING & INFORMING



## Vertical Transmission of SARS-CoV-2: THE JURY IS OUT

Basic Antenatal Care in Malaysia -  
has anything really changed in  
the last 20 years?

Bridging the Gap  
with RCOG

INSIDE  
INBOX

A publication by the Obstetrical and Gynaecological Society of Malaysia

# Contents

---

**01** Does prenatal screening for Down syndrome inherently devalue the lives of those living with this condition?  
*Prof Nazimah Idris*

**06** Basic antenatal care in Malaysia – Has anything really changed in the last 20 years?  
*Dr H. Krishna Kumar*

**08** IRC – Bridging the gap with RCOG  
*Dr Kandy Loo Chin Yee*

**10** Letter to editor  
*Dr Ravi Chandran*

**11** Maternal mortality revisited: Pre-eclampsia (PE)  
*Dr Vijayan V and Dr Patrick Chia*

**14** Promoting equity in obstetrical and gynaecological practice  
*Dr Felicity Mishan Ng Yiwey*

**16** Sinister male factor infertility masquerading as a normal semen analysis  
*Ms Kausalyah Bala Supramaniam  
Dr Eeson Sinthamoney*

**19** Vertical transmission of SARS-CoV-2: The jury is out  
*Dr Voon Hian Yan*

## Editorial Team

Editor :



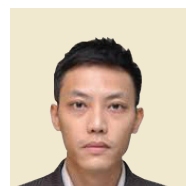
Dr Eeson Sinthamoney



Prof Ng Beng Kwang



Prof Nazimah Idris



Dr Voon Hian Yan



Dr Felicity Mishan  
Ng Yiwey



Ms Premalatha B



Mr Chong KL

Creative :

Pronto Ad Sdn Bhd | [ask@prontoad.com.my](mailto:ask@prontoad.com.my)

---

**Disclaimer** While all care is taken to ensure that the information in this newsletter is accurate, the authors and publishers of this newsletter cannot be held liable for any loss or harm suffered by any person, by any reason of information contained in this newsletter or any inaccuracies, omissions or misrepresentations in any article in this newsletter.

The opinions expressed in this publication are those of the authors/contributors and do not necessarily reflect the views of the society.

# Does Prenatal Screening for Down Syndrome Inherently Devalue the Lives of those Living with this Condition?



## Prof Nazimah Idris

Acting Medical Director, IMU Healthcare  
Clinical Professor (Obstetrics & Gynecology),  
School of Medicine  
International Medical University  
Seremban, Negeri Sembilan, Malaysia

## Background

John Langdon Down (1828–1896) described a group of people in a mental asylum as having the typical characteristics of a round face with oblique eyes, the flat nape, the short and bristly hair, the thin eyebrows, the small pug nose and the thick, cleaved tongue. In 1959, it was discovered that the condition was due to an extra chromosome 21, and modern genetic testing nowadays can identify this extra chromosome to make a diagnosis of Down's syndrome.

People with Down's syndrome usually have mild to moderate mental retardation, although in some, it can be severe. School-aged children with Down's syndrome often have difficulty with language, communication and problem-solving skills, while adults with Down's syndrome have a high prevalence of early Alzheimer's disease, further impairing cognitive function. With modern medicine, the five-year survival rate is greater than 90%, and current life expectancy exceeds 60 years. With appropriate training and support, people with Down's syndrome can positively contribute to society in many ways. As explained by Frank Stephens (who is a person with Down's syndrome, an award-winning actor, special Olympian, and a Down's Syndrome advocate), people with Down's syndrome are 'a medical gift to society, an unusually powerful source of happiness and the canary in the eugenics coal mine'.

In recent years, a non-invasive prenatal test (NIPT), done by extracting cell-free foetal DNA from a sample of the mother's blood and has a sensitivity and specificity of over 99%, is available and offered to pregnant women. This test has the advantage of not carrying the 1% miscarriage risk of invasive prenatal testing and has better test acceptance, leading to an increase in the number of tests accomplished. Inevitably, the prenatal diagnosis of Down's syndrome has resulted in abortion of affected pregnancies, with a reported abortion rate of over 90%. The

exceedingly high rate of abortion has raised questions about the value of the lives of people with Down's syndrome. Besides termination of affected pregnancies, it is argued that prenatal diagnosis may adversely influence the social acceptance of Down's syndrome and contribute to the substandard healthcare they receive. This article will discuss the measurement of values of life and whether the prenatal testing, detection and subsequent abortion of foetuses with Down's syndrome is an indication that their lives are less valued.

### Measurement of a person's value of life

Healthcare is one of the best expressions of how life is valued. It works around decisions of maintaining life and preventing death. Except for the highly controversial euthanasia, healthcare is not about hastening death or affecting death, because the core service is about maintaining life. The situation with prenatal diagnosis and termination of pregnancy is seen as an anomaly because the diagnosis is actively looked for, and once detected, over 90% of these pregnancies are terminated. The foetus is not allowed to be brought into life. Does this sequence of actions resulting in the termination of pregnancy indicate that we inherently devalue the lives of people with Down's syndrome? To answer such a question, we must first establish the criteria to measure the value of life.

The value of life can either be measured by our willingness to save the life and bear the cost of doing it, or by making a judgement of the life to save in the instant that a choice has to be made. There are several criteria that can be used to make decisions that a life is or is not worth saving. Among them are the moral significance of age where the younger is more valued over the older, having worthwhile lives over those deemed to have lives not worth living, the moral advantage of dependents and friends over those without dependents, the moral advantage of usefulness where his continued existence is critical so others might live too and finally, the moral worth of a person over someone who

is immoral. However, there is no agreement that these criteria are adequate in measuring the value of life. Eventually, so long as people themselves value their lives and want to continue living, then their lives are just as valuable as others.

'I am a man with Down syndrome and my life is worth living' - Frank Stephens's testimony at the United State Congress.

### Abortion and the value of life

It is an undisputed fact that as high as 96% of pregnancies diagnosed with Down's Syndrome are terminated. Is the high rate of abortion an indication that the lives of people with Down's syndrome are not valued? We looked at reasons why women had terminated Down's syndrome-affected pregnancies for an answer.

The main reason was cited as unwillingness to knowingly bring a handicapped child into this world due to concerns that the child would need lifelong special needs support and may even be institutionalised. There were also concerns over the effects on other siblings and family dynamics when a disabled person becomes part of the family, and many adjustments must be made to the accustomed lifestyle. Others worried about the effects of having such a child on a couple's relationship and concerns of the increased burden of caring for a special child, especially as the sole caretaker. About 90% of women who terminated their pregnancies following a diagnosis of Down's syndrome expressed concerns over the perceived poor quality of life for the child and that they would never be able to function independently, which is burdensome to the child itself. There were also concerns that the child might experience difficulty because the 'respect for disabled children in our society is too low'.

Valuing the lives of children with Down's syndrome can also be demonstrated by couples who underwent routine testing and did not terminate their pregnancies despite the diagnosis of Down's syndrome. Instead,

they prepared for the birth, which included medical preparation, to ensure the best outcome at birth. Socioeconomic adjustments and psychological preparation for the birth and for caring for a child with Down's syndrome were also made. They explained that they perceive better personal reward and enrichment in parenting a child with Down's syndrome. Such couples are likely to be more familiar and have positive experiences with individuals with Down's syndrome, such as having a sibling or other close relatives with the condition.

From the reasons given, it is obvious that concerns over the child was a major consideration in the decision-making process, even with or especially when the decision was to terminate the pregnancy. Such considerations did not at all indicate that the life of the child was not valued. Such considerations are more akin to preventing harm to the child from being born in a disabled and 'harmed' state.

### Prenatal genetic testing and harm prevention

There are two ways genetic testing is said to prevent harm to a third party, the third party in this case refers to the prospective child. One is when the genetic abnormality is so severe that the person is expected to live a life full of suffering. This type of life is considered harmful to the person and it is perceived that the person is better off not being brought to life. Routine testing which results in detection of the genetic condition and a termination of pregnancy is seen as preventing suffering and harm to the person. It is noted that a foetus with Down's syndrome does not fit into this category and would not have benefited from harm prevention the way it is described above. The second way of harm prevention is more complex. It is where it is considered harmful for a person to be born in a state of disability, however slight, if a person has a rational preference to be born without. Harris explains this concept of harm as follows:

'To be harmed is to be put in a condition that is harmful [...] one in which the individual is disabled or suffering in some way or in which his interests or rights are frustrated. The disability or suffering may be slight, just as harms may be trivial'.

A person with Down's syndrome would fit into this category of harm prevention and termination of pregnancy can be argued as a means of preventing harm to the prospective child, and not because their lives are less valued.

### Conclusion

Prenatal genetic testing is not about detecting and terminating pregnancies affected with Down's syndrome because their lives are less valued. It is about empowering women to make reproductive decisions and taking steps for preventing harm to the prospective child.

Perhaps if parents, as decision-makers, would listen to what people with Down's syndrome have to say about this 'disability', they would be more appropriately guided in making reproductive decisions. In the words of an author who himself was born with Down's syndrome: 'I don't think it's a handicap. It's a disability for what you're learning because you're learning slowly. It's not that bad'.

## References:

1. *Facts Views Vis Obgyn*. 2016 Jun 27; 8(2): 131–136.
2. *Ibid*
3. Epstein CJ. Down syndrome (Trisomy 21). In: Scriver CR, Beaudet AL, Sly WS, Valle D, eds. *The metabolic and molecular bases of inherited disease*. New York: McGraw-Hill, 1995:749–94.
4. Halliday J, Collins V, Riley M, Youssef D, Muggli E. Has prenatal screening influenced the prevalence of comorbidities associated with Down syndrome and subsequent survival rates? *Pediatrics*. 2009;123(1):256-261.
5. Irving C, Basu A, Richmond S, Burn J, Wren C. Twenty-year trends in prevalence and survival of Down syndrome. *Eur J Hum Genet*. 2008;16(11):1336-1340.
6. Conor Friedersdorf. 'I Am A Man with Down Syndrome and My Life Is Worth Living'. <https://www.theatlantic.com/politics/archive/2017/10/i-am-a-man-with-down-syndrome-and-my-life-is-worth-living/544325>
7. Pös, Ondrej et al. "Recent trends in prenatal genetic screening and testing." *F1000Research* vol. 8 F1000 Faculty Rev-764. 31 May. 2019, doi:10.12688/f1000research.16837.1.
8. *Public Health Functions to be exercised by NHS England. Service specification No. 16: NHS Down's Syndrome Screening (Trisomy 21) Programme*. Department of Health. 2013.
9. Julian-Reynier C, Aurrant Y, Dumaret A, Maron A, Chabal F, Giraud F, Ayme S. Attitudes towards Down syndrome: Follow-up of a cohort of 280 cases. *J of Med Gen*, 1995; 32(8); 597-599.
10. Harris J. *The Value of Life. An Introduction to Medical Ethics*. Routledge London and New York. 1984.
11. Conor Friedersdorf. 'I Am A Man with Down Syndrome and My Life Is Worth Living'. <https://www.theatlantic.com/politics/archive/2017/10/i-am-a-man-with-down-syndrome-and-my-life-is-worth-living/544325>
12. Peterson OB, Vogel I, Ekelund C, Hyett J, Tabor A. Potential diagnostic consequences of applying non-invasive prenatal testing: population-based study from a country with existing first trimester screening. *Ultrasound Obstet Gynecol*. 2014;43:265-271.
13. Choi H, Van Riper M, Thoyre S. *Decision Making Following a Prenatal Diagnosis of Down Syndrome: An Integrative Review*. *J Midwifery Womens Health* 2012;57:156–164
14. Harris J. Is there a coherent social conception of disability? *Journal of Medical Ethics* 2000;26:95-100.
15. Harris J. *Clones, Genes and Immortality*. Oxford. Oxford University Press, 1998.
16. Harris J. Is there a coherent social conception of disability? *Journal of Medical Ethics* 2000;26:95-100.
17. Kingsley J, Lewitz M. *Count us in. Growing up with Down's syndrome*. 1st Harvest Ed Edition, Kindle Edition.

For Locum Workers, Semi-Retired and Part-Time Specialists

# It's what makes us different, that makes us better.

We're committed to finding different ways for professionals like you to get the coverage you deserve. Like offering bespoke policies that truly understand the way you work, policies that share all our trend-setting, industry-first features, but at much lower prices—and most Doctor Shield premiums *already* cost much less than our competitors'. Visit us online and try our instant quote calculator to see how much you can save, and to sign up completely online – in less than ten minutes.



Insurance With a Difference



[quote.thedoctorshield.com/promo/ogsm2020](https://quote.thedoctorshield.com/promo/ogsm2020)

ENTER PROMO CODE: **OGSM2020**

# Basic Antenatal Care in Malaysia - Has anything really Changed in the Last 20 Years?



**Dr H. Krishna Kumar**

Senior Consultant Obstetrician and Gynaecologist  
Head, Department of Obstetrics and Gynaecology  
Hospital Tuanku Ja'afar, Seremban

*Antenatal care has been in the country prior to independence. It mainly began from the government sector, but the private sector has played a larger role with the passing of time. In current times, the government sector (through the Ministry of Health) plays the largest role. I will try to show the changes over the last 20 years using Negeri Sembilan as my example, since I have been working there for more than 2 decades.*

## INFRASTRUCTURE

The infrastructure has greatly increased over these years. We first had outpatient departments separated from the hospitals into health centres. Here, they were divided into Outpatient and Maternal and Child Health. The MCH does all the antenatal care, and they have expanded. Initially, there were big and small healthcare centres, which are now just called healthcare centres.

The government has made great improvements in building more health centres. These were accomplished both in urban and rural areas. This ensured that >98% of the population has antenatal care within 5 km. There is also an increase in the number of private hospitals that provide antenatal care during this time.

## MANPOWER

The composition of manpower has also changed. We began with traditional birth attendants and midwives. They have now been upgraded to community nurses with most of them having posts as basic midwives. The day of single medical officers are rare now, with most centres possessing several doctors. We also have specialists in the form of Family Physicians who are in these centres, providing specialised care to patients.



In the private sector, private specialists are mainly provided. But there is a group of private general practitioners who also provide such services. Besides the allopathy medicine, we have now alternative practices that offer a range of services for antenatal mothers, many of which are not evidence-based.

### EQUIPMENT

Previously, hardly any equipment was available. Now, almost all healthcare centres have at least 1 ultrasound machine or more than 1. Patients are routinely scanned to confirm their dates as well as to look for foetal heart, growth, growth restriction and placental location. Glucometer for blood sugar monitoring and fundus camera for eye complications are also routine now. The need for referral to hospitals for routine reasons have been reduced.

### MANAGEMENT BUDDY/CLUSTER SYSTEM

Now, most health centres have a hospital or specific O&G specialists to liaise their cases with. The Cluster system may be the precursor for the start of Healthcare Trusts being separated by specific funding. This would ensure that the antenatal care of patients is synchronised with the hospital from the beginning to ensure that the patient is optimally managed even before arriving at the hospital.

### DIABETES

We are now doing universal screening. All positive cases are given dietary advice from a dietician, and blood sugar profiles are done in the health centre or by patients at home. The initiation of insulin or oral hypoglycaemics can also begin at the healthcare level and blood sugar levels will be monitored.

### HIV

Routine HIV screening is usually accomplished when booking with pre-test counselling. If positive, they will have a post-test counselling. Patients will also undergo the short-term antiretroviral therapy (START) as per guidelines. They will

then be referred to the hospital for combined care with physicians.

### HYPERTENSION

Gestational hypertension or hypertension complicating pregnancy is also initially managed at healthcare centres. The introduction of calcium and aspirin in high risk cases are initiated at primary care. In private centres, they provide blood test and uterine artery Dopplers as a risk strategy to identify high risk patients.

### THROMBOPROPHYLAXIS

Local guidelines were launched around 3 years ago. However, many centres have been using low molecular weight heparin and unfractionated heparin for many years based on the RCOG guidelines.

### ANAEMIA

Anaemia is a longstanding problem. Previously, only simple oral haematinics or Obimin were given. Now, there is an increased number of products and some have much higher iron content to solve most iron deficiencies. Intramuscular and intravenous iron is now strongly advocated.

### DEXAMETHASONE

The rise and fall of the usage of dexamethasone has changed with evidence. The dosing times and the numbers of repetitions have also changed with time. Currently, it is 12 mg 24 hours apart in 2 doses, but rescue doses are advocated if the previous dose has been more than 2 weeks. Some centres are also advocating a single dose prior to elective LSCS based on the RCOG guidelines.

### MgSO<sub>4</sub>

It was initially introduced for the treatment of eclampsia and severe pre-eclampsia. Now, it is also used for cerebral protection of the foetus if expected delivery is before 32 weeks gestation. It has the best results if used shortly before delivery.

### PRENATAL SCREENING

There is great progress in this aspect. In terms of screening, we now

have free foetal DNA in maternal blood, ultrasound markers which may be combined with biochemical markers and the traditional triple and quadruple tests. In diagnostic tests, we have amniocentesis and chorionic villous sampling, which are now available in more centres. Anomaly scans are conducted often now.

### IUGR

Intrauterine growth restriction is now better detected and managements have improved. With close monitoring, routine Dopplers and CTG, the numbers of stillbirths from this group have steadily declined with time.

In conclusion, the overall care of pregnant mothers has improved over time. Patients have more choices and can acquire personalised care from specialists if they can afford it. This overall improvement has managed to reduce the numbers of perinatal deaths, but we have given more work to neonatologists as we are now delivering ill babies before they die. This has resulted in NICU beds becoming very scarce since these ill babies occupy the beds for a long duration.

However, the maternal mortality has not significantly dropped over the last 20 years. This may be due to improvements of obstetric care in the reduction of the usual PPH and PIH, overtaken by better reporting of numbers of emerging medical disorder complications in mothers such as cardiac disorders, sepsis and dengue.



**Dr Kandy Loo Chin Yee**  
Obstetrician and Gynaecologist in  
Sarawak General Hospital

# IRC – Bridging the Gap with RCOG

*The RCOG International Representative Committee has been the local conduit between Malaysian members, fellows and trainees for many years, but few knew its function or relevance until its recent awakening with a brand new dynamic committee since mid-2018.*

The committee, under the leadership of Dr Shilpa Nambiar, has now become a registered society with a blog website and database from which regular newsletters and email blasts about events and updates are sent.

## The IRC and the MRCOG Examinations

Malaysia has long been a centre for the MRCOG Parts 1 and 2 Examinations, coordinated by the International Representative Committee. The examinations have seen huge yearly increases in candidate numbers as the Parallel Pathway for specialist training and qualification becomes more established. The examinations held at Avante Hotel on the 3rd and 4th February 2020 had 220 candidates for Part 1 and 223 candidates for Part 2. The invigilators this year were Dr Alison Wright, Dr Shilpa Nambiar, Prof Paul Fogarty, Dr Mohd Feizal Niraj and Dr Tan

Cheng. The committee was given commendations for organising one of the most efficiently and smoothly run examinations in the world.

## The IRC and MRCOG Franchised Courses

The MRCOG examination has been a huge hurdle for local Malaysian trainees. Although it has gained popularity as more candidates are successfully gaining membership, many young trainees are still in the dark as to the dos and don'ts of the MRCOG, especially since practice differs from the UK setting where the examination is based. This is made even more complicated as the examination format has changed several times, making preparation difficult.

The MRCOG franchised course for Part 2 and now Part 3 is the longest running course in Malaysia since 2011. It began in Hospital Ampang

but moved to Penang Medial College in the last 6 years for logistic and strategic reasons. This is the only course that receives material from the college and is constantly updated to reflect the multiple changes in examination format and content. This is also the course that produced successful candidates who have, in turn, become teachers and mentors to trainees in their own examination preparation platforms. The IRC will continue to run these courses to help bridge the gap between local knowledge and the UK system.

## The IRC and Educational Updates

Perhaps the most exciting new development from the IRC Committee is the RCOG Focus Series. This is a new initiative that brings international speakers together with local experts to provide educational updates in different areas of women's health. It reflects the IRC commitment to not only engage trainees, but also





our members and fellows who are a significant part of the RCOG family. The IRC hopes to extend its role by providing a forum for improving and updating knowledge and skills in the profession.

The first RCOG Focus on Menopause in January 2019 had Dr Eddie Morris, the current RCOG president, and Dr Premitha Damodaran as esteemed speakers. The oversubscribed event proved to be more popular than expected, indicating that members and fellows were only waiting to be engaged.

This was followed by a full day workshop in Prince Court Medical Centre, The RCOG Focus on Preterm Labour, in March 2019 with Professor Gian Carlo Di Renzo, Prof Gerry Visser and Dr Shilpa Nambiar. A larger audience was present and interesting updates were provided on the management and prevention of preterm birth.

The latest was a two day workshop, RCOG Focus on Intrapartum Care, with lectures, simulation and hands-on exposure on all aspects of labour (from monitoring to management) and training of staff. This was held on the 9th and 10th of November 2019 at Prince Court Medical Centre with Prof Tim Draycott and Prof Diogo Ayres Di Campos as the invited international experts. The interactive and informative workshop was well received with participants asking for more such events in future.

Unfortunately, the next few events were postponed due to the Covid-19

pandemic and this involved a lecture tour by Prof Basky Thilaganathan, a renowned foetal medicine specialist, with topics ranging from pre-eclampsia, twin pregnancies and foetal growth restriction. This, and all other courses, have been put on hold until the situation resolves and there is more clarity in planning for the future.

### The IRC and the Medical Training Initiative (MTI)

The Medical Training Initiative is a 2 year program sponsored by the RCOG where eligible local candidates are given an opportunity to hold paid jobs in hospitals in the United Kingdom to gain exposure prior to the MRCOG's Part 2 and 3 examinations. This has been a valuable experience for successful MTI candidates as it greatly enhanced their chances of passing their examinations due to first-hand exposure to the nuances of UK practice. Applications for this position go through the IRC. The Chair invites the applicant for a formal interview to assess their experience and ability in managing clinical scenarios using a viva and role play with real patients. The assessment is then sent to the college for final deliberation.

### The IRC and the Parallel Training Pathway

The IRC has three members on the National Parallel Training Pathway committee and will continue to ensure that training in Malaysia for MRCOG candidates will mirror the experience in the United Kingdom as much as practically possible.

Training of the trainer's courses for educational supervisors and clinical supervisors began in 2016 when the first trainers from the college were brought in through the Sims Black Fellowship to start the ball rolling. The Vice President of the RCOG at the time, Professor Claire McKenzie, along with Dr Robert Haughney, Dr Sambit Mukopadyay and Dr Shilpa Nambiar, were the first trainers in a partnership between the RCOG and the Ministry of Health Malaysia to structure MRCOG training in Malaysia. Since then, there has been many more locally organised courses to build the network across the country so that local trainees are well supported.

The IRC is also currently in negotiations to be a MRCOG Part 3 centre in May 2021. After almost a year in discussion, the final contract was meant to be signed at the RCOG World Congress in Oman on March 2020. However, the ongoing COVID-19 outbreak has caused many unforeseen disruptions and the repercussion from this is that all examinations, courses and face-to-face forums are postponed until the pandemic resolves. In the meantime, the RCOG is constantly updating its members through emails, new guidance and information that are all available on the official website.

IRC would like to take this opportunity to pay tribute to the front-liners from all walks of life who are fighting the virus. We can win this war TOGETHER. Stay safe and stay home everyone!



5 May 2020

Letter to the Editor

Dear Sir,

### **AOFOG YGA Programme**

I read with interest Dr Voon's account of his participation at the recent YGA Programme in Manila in November 2019. I was delighted that he enjoyed the Programme and would like to take this opportunity to add a few remarks.

1. The YGA Programme is partly funded by the National Society members of AOFOG. Of the current 28 National Society members, only between 5-8 members contribute on a regular basis. OGSM has the proud distinction of being one of these regular contributors to a very worthy project.

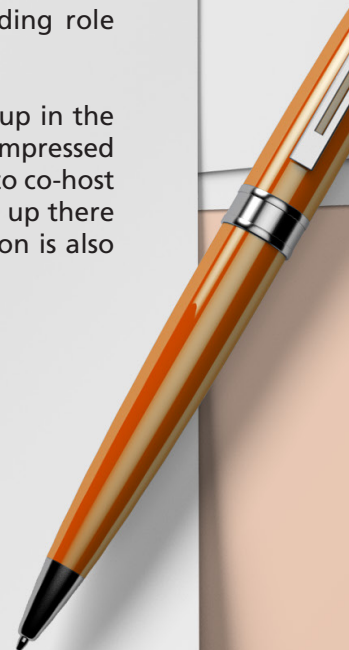
2. As pointed out, the Programme was initiated in 1991 by Prof Mizuno from Japan. Over the years however, the Programme became a bit jaded. It required a "shot in the arm" and this materialised into the form of the Community Fellowship Programme (CFP) which was introduced at the AOFOG Congress in Kuching in 2015. This CFP was such a huge success that it has now become a highlight of the YGA Programme in every subsequent AOFOG Congress. OGSM should be rightly proud of starting this CFP, but we must also acknowledge the contributions made by our Ministry of Health and the leading role played by Dato' Dr Mohamad Farouk Abdullah in ensuring its success.

3. Dr Voon very humbly mentioned in passing that he was one of the runners-up in the YGA Best Paper category. What he neglected to mention was that he greatly impressed the AOFOG faculty during the YGA and CFP and not surprisingly, he was chosen to co-host the YGA session during the President's Night. I was immensely proud to see him up there on stage and congratulated him on keeping the OGSM flag flying high! Dr Voon is also currently a member of the AOFOG Ultrasound Committee.



**Dr Ravi Chandran**

*Past President OGSM 2005/2006  
Immediate Past President AOFOG  
Consultant Obstetrician and  
Gynaecologist  
Gleneagles Kuala Lumpur*





# Maternal Mortality Revisited: Pre-eclampsia (PE)



## Dr Vijayan V

Consultant Maternal & Fetal Medicine  
Aseana Pregnancy Scans @  
Aseana O&G Specialist Clinic  
The Curve, Kota Damansara



## Dr Patrick Chia

Consultant Maternal & Fetal Medicine  
Aseana Pregnancy Scans @  
Aseana O&G Specialist Clinic

*Revisit if you may, ad infinitum, our comprehension of PE (its core at least) has changed little in the past three decades. We cannot fault vigour in research. A PubMed search on PE from 2010 would yield a minimum of 18,000 citations. PE continues to be an enigma for researchers, and a dilemma for frontline clinicians faced with ethical conundrums.*

PE remains, to this day, one of the leading global causes of maternal and perinatal mortality. It was so when I was a fledgling registrar at the Guy's & St Thomas Hospital, London, back at the turn of the millennia, and it is still so today. 76,000 women and 500,000 babies perish annually. 20% of women with PE go on to develop cardiac co-morbidities in later life. 30% go on to develop metabolic syndrome.

Despite this inertia in breakthrough progress, we have progressed up to a certain extent; some more significant than others. Here is a summary of PE revisited.

### DEFINITIONS

PE is diagnosed when: the systolic BP  $\geq$  140 or the diastolic BP  $\geq$  90 is sustained over 4-6 hours, AND one of the following:

- a. Proteinuria  $\geq$  300 mg in 24 hours
- b. Foetal compromise: growth restriction, stillbirth
- c. Low platelet  $<$  100x10<sup>6</sup>
- d. End organ dysfunction: elevated transaminases OR deranged renal excretory function

NOVEL criteria: Serum placental growth factor (PlGF). Lower serum PlGF accurately predicts severe PE and, in turn, prevents morbidity. The NHS has rolled out this model for piloting in 2019. The cost-efficacy outcomes are eagerly awaited by the obstetrics community.

## CLASSIFICATIONS

1. Early onset PE – as the name describes – carries more morbidity and mortality since the prediction of morbidity remains far from perfect. This is when PE occurs early enough to warrant eventual delivery by the 34th week of gestation.
2. Late onset PE

## PREVENTION

Most obstetricians familiar with the CLASP trial (of my generation and older) would be prescribing 75 mg aspirin for women with a history of early onset PE (criteria of SGA used at the study time). Eventual research has shown the optimum dose to be somewhere in the 100-150 mg range. Interestingly, aspirin ingested pre bed and commenced prior to the 16th week of gestation has the best desired effect. The criteria for aspirin as the point of contention is where we are at the moment. We now know that aspirin works in reducing morbidity in the early onset PE group – the severe group. Aspirin is not without its dark side, and patient selection is paramount. This leads us to the subject of screening the high risk group predicted to develop PE. On a lower scale, calcium supplements (in a low calcium intake population such as ours) has been shown to reduce the incidence of mild and moderate pregnancy induced hypertension. Routine 1.5 to 2 g supplementation can be considered for all primigravidae with low calcium intake and no contraindications.

## SCREENING

Various models exist. The maternal characteristics model, currently used by most national O&G opinion bodies, utilises certain parameters in history and examinations such as age, BMI, past history, etc. The NHS has the 10 point list. It fulfils these criteria results in women subjected to prophylactic aspirin. This model, at best, predicts 30% of women developing severe PE. The combined screening model of maternal characteristics, the mean arterial pressure, uterine artery dopplers and serum PAPP-A + PIGF (characteristics, ultrasound and biochemical markers) has a 78% detection rate. The ASPRE (2017) trial also showed that aspirin at 150 mg reduced the PE rate in excess of 60%. This protocol has a false positive rate of 10%. Although the clinical and statistical benefits are proven, cost-effectiveness has not been established.

## MANAGEMENT

Delivery remains the end point of the management of PE and its treatment. Recommending this, however, is not as straightforward as it seems. We are guided by the following:

1. Early onset PE < 34 weeks: Maternal risks are checked by perinatal risks of prematurity.
2. Late onset PE group (34-37): Delivery has shown to reduce maternal morbidity (albeit with increased neonatal admissions NOT amounting to increased perinatal morbidity).
3. Term PE (37+0): Delivery (no increased CS risk and reduced long term maternal morbidity).

The fullPIERS criteria to predict morbidity is a relevant clinical guide when timing delivery. With the advent of the PIGF, many more lives can be saved, and serious morbidities can be further averted.

The role of MgSO<sub>4</sub> in eclampsia, severe PE and neuroprotection when considering delivering a preterm infant is established. Not without its dark side, low dose MgSO<sub>4</sub> is now seen to be promising.

## DO NO HARM

The poly-supplements policy with multiple supplements in the hope of averting a host of potential problems including PE is not advised. Indeed, studies have shown that this is associated with producing small babies for gestational age babies at most, and a complete waste of money at the very least.

Vit C & E (antioxidants) have also shown to produce small babies with no proven benefit in preventing PE.

Routine caesarean section is associated with increased morbidity and mortality.

## WATCH THIS SPACE

Biomarkers that cause reasonable noise and excitement: soluble fms-like tyrosine kinase-1 (sFlt-1).

Prevention: low molecular weight heparins have shown promising results. Their higher side effect profile is a hindrance to acceptance. Vitamin D and L-arginine supplementation have shown promising results in small studies.

Treatment: Low dose MgSO<sub>4</sub> may prove to be efficacious.

### References

1. Rolnik, D.L. et al. *NEMJ* 2017; 377(7):6130.
2. Poon, L.C. et al. *Int J Gynecol Obstet* 2019; May; 145(Suppl. 1):1-33.
3. Chappel, L.C. et al. *Phoenix Study Group; Lancet* 2019; 394:1181.
4. Dulnig, K.E. et al. *PIGF testing to assess women with suspected preeclampsia. Lancet* 2019; May; 393(10183):1807-1810.
5. Gareth Iacobucci. *NHS to roll out blood test for preeclampsia. BMJ* 2019; 365:1543.
6. Clasp. *Lancet* 1994; Mar 12; 242(8898): 619-29.
7. von Dadelszen, P. et al. *Prediction of adverse maternal outcomes in preeclampsia: Development and validation of the fullPIERS model. Lancet* 2011; 377: 219-27.



[www.ogsm.org.my/57agm.php](http://www.ogsm.org.my/57agm.php)



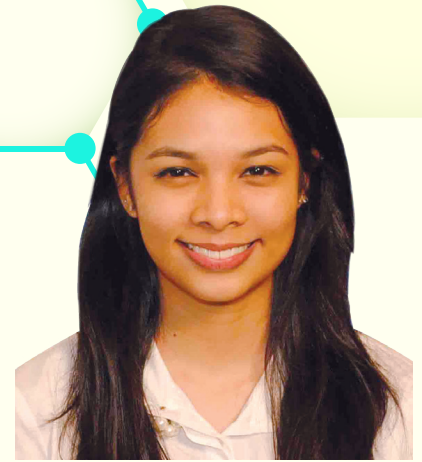
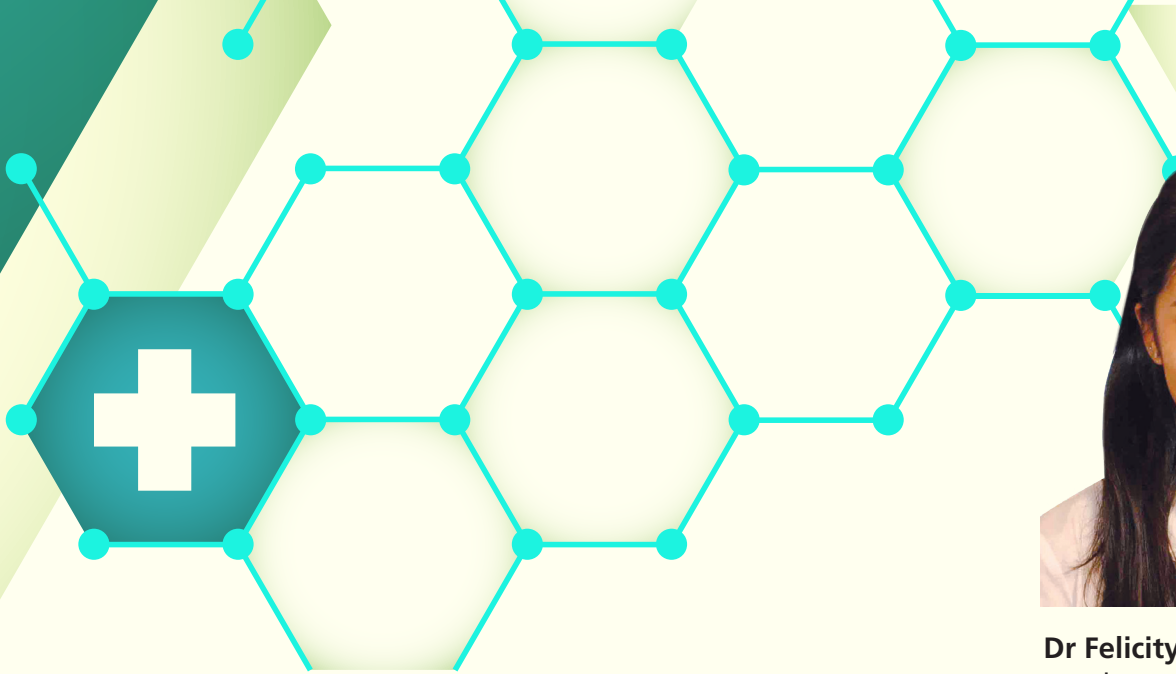
Obstetrical and Gynaecological  
Society of Malaysia

# 5<sup>th</sup> OGSM ANNUAL GENERAL MEETING SAVE YOUR DATE

Date  
Time  
Venue

Saturday, 3<sup>rd</sup> October 2020  
1600hrs

DEWAN BERJAYA  
BUKIT KIARA EQUESTRIAN & COUNTRY RESORT  
Jalan Bukit Kiara, Off Jalan Damansara  
60000 Kuala Lumpur.



**Dr Felicity Mishan Ng Yiwey** is a recent graduate awaiting her house-officer posting. In the meantime, this young and talented writer has joined as an ad-hoc member of the Connect editorial board.

# Promoting Equity in Obstetrical and Gynaecological Practice

It goes without saying that the main goal of achieving universal health coverage involves making healthcare accessible and adequate for all. Equity and equality in delivering care have long been common values in medical practices and lay the foundation to many ethical principles we know today. Although the term 'equity' has often been used interchangeably with 'equality', the former is of particular focus here. Equity is the value where we ensure that quality and personalised service are delivered to all our patients, helping them achieve their optimal health goals according to their needs. In the context of Obstetrics and Gynaecology, it is where we identify women who have limitations to healthcare and improve the care necessary to meet their demands.

In Malaysia, we have a robust healthcare system in place aimed at delivering universal health coverage to all its citizens. We have built and enhanced many healthcare facilities, increased the number of professionals and held numerous outreach programs across the country over the last

two decades. The progress we have made in the healthcare industry is significant and has placed us amongst the top providers in the field on an international scale. However, I believe that disparities in both social and demographic aspects of this field still exist.

We still hear stories of the Orang Asli women in the thick jungles who cannot get to the hospital in time for their delivery, or the stories of women who are left bedridden, ill stricken from cancer, because they never understood their diagnosis or treatment plans. These are the women whose stories clearly paint the problems that we need to revisit despite all the advances we have made in healthcare. Therefore, this article hopes to bring awareness to the inequities in healthcare surrounding our women and how we, as medical practitioners, can take measures to empower ourselves and our patients toward better health outcomes.

To illustrate the problem at hand, a common example is the women in the outskirts of Sabah and Sarawak. There, communities practice a simple, conservative way of life.

Their beliefs and cultural practices are unique, and many live away from public facilities, including schools and hospitals. Both Datuk Dr Hatta, a senior Consultant in OBGYN at the Sabah Women's and Children's Hospital, and Dr. Harris, Senior Consultant and Head of O&G services Sarawak, of Sarawak General Hospital, have highlighted the effects of poor accessibility to infrastructure as the main drivers in contributing to the lack of health awareness, which inevitably increases the health burden among these patients within the community. This is further reflected in the global statistics which demonstrate that women from similar backgrounds, given their circumstances, have higher risks of antenatal complications including preterm labour, low birth rate, stillbirth and gestational diabetes mellitus. Incidences of complications and mortality from gynaecological problems, such as cervical and breast cancers, have also been widely documented.

Next are the issues surrounding health literacy, language, race and socioeconomic background which also contribute to increased



disparity gaps, and can potentially be aggravated by professionals who are providers of prejudice. With already so much to struggle with, women who are discriminated against are more likely to avoid health visits. Providing optimal care is now disrupted because both the patient and the provider are clouded by their own judgements. Re-establishing trust among the community for medical professionals then becomes a problem.

Having understood the dilemmas surrounding these women, I set out to ask: "How do we optimise healthcare for these women?"

Firstly, we must listen and communicate more effectively. Communication skills are our sharpest tools in the shed, but they are also the most forgotten. To be able to communicate well with our patients would mean to have the ability to understand and respect their views and beliefs. It involves actually listening and acknowledging the patients' barriers to healthcare, leaving out any form of judgment or stereotype. Through this, we are then able to effectively design personalised treatment plans for them. We may start off by asking our patients about their environmental and social experiences, and their general perception towards health. We must then work with them as partners in formulating an accessible and sustainable plan for better health options. Ultimately, emphasis on education targeted at appropriate social contexts should be made as the primary goal, especially for patients with lower health literacy. Making such small changes in the way we converse with our patients on a day-to-day basis can positively impact their overall health, promoting health awareness and ultimately contributing to better health equity.

Additionally, part of championing women's health equity as an OBGYN includes understanding these shortcomings and accommodating where necessary. This also involves making referrals to appropriate bodies, working with local leaders or public sectors, setting up community improvement projects and arranging for transportation facilities where necessary; all in the efforts to bridge racial inequity in healthcare. An example of this, given by Dr Harris, is the 'Medevac' air ambulance service in Sarawak which caters to hospitals by assisting medical professionals to efficiently reach patients in remote areas. Similarly, Datuk Dr Hatta has called for transportation services for patients at the outskirts, arranged by clinics and hospitals for little to no cost, all in an attempt to ease accessibility.


On top of that, there is also a need to align our skills and resources to create a platform which better promotes a more diverse, equally represented workforce in the healthcare industry. With greater representation, not only are we closer to advocating women's health equity, but we will also contribute to a global cause, one dedicated to eliminating any form of social or cultural injustice beyond healthcare. Again, recognising the power of education and awareness are the first steps toward achieving this goal. Here, we must open more doors of opportunity for people to take up greater roles in the field. By doing so, disparity gaps within the community will be narrowed, if not entirely closed. For this to work, there is a need to start early with the younger generation, such as in schools and colleges, where we nurture skills and provide proper mentorship to help them get ahead in their careers. However, this initiative will only remain a premature

one if the necessary support from local authorities and public services are not forthcoming.

Therefore, we must look to our communities and listen to their stories. We must stand together in solidarity in the fight for greater equity. We must begin by taking small steps towards a giant leap for success in creating better opportunities for those in need.

Credits to:

1. Datuk Dr Mohamed Hatta Tarmizi, Senior Consultant Obstetrician & Gynaecologist and Fertility Specialist, Sabah Women's and Children's Hospital, Kota Kinabalu, Sabah
2. Dr Harris Njoo Suharjono, Senior Consultant Obstetrician & Gynaecologist and Head of Department, Sarawak General Hospital and President of Obstetrical & Gynaecological Society of Malaysia (OGSM), 2019-2020



# Sinister male factor infertility masquerading as a normal semen analysis



**Ms Kausalyah Bala Supramaniam**  
Embryologist at Sunfert International Fertility Centre and is currently pursuing her Msc in Clinical Embryology at University of Leeds, United Kingdom.

Infertility is exceptionally common worldwide, affecting between 10%–15% of all couples. In approximately 50% of these couples, a male factor is involved either as a single factor or in combination with a female factor<sup>1</sup>. The diagnosis of a male factor is made primarily using a simple semen assessment and in the vast majority of men who are found to have an abnormality, the underlying cause is often labelled as 'idiopathic'. However, we now believe that sperm dysfunction that is not revealed by conventional semen analysis may be responsible for the difficulty to conceive<sup>2,3</sup>.

While the sperm's contribution to fertilization and further development of the embryo is obvious, recent reports provide interesting insights on the role sperm genetics play on an equally vital but less understood aspect—the longer-term development and health of the offspring's. An increased risk of schizophrenia or autism in offspring from fathers with increasing age<sup>4,5</sup> had previously been shown. Similarly, an increased risk of cancer in offspring from fathers with increased level of sperm DNA fragmentation has also been illustrated<sup>6</sup>. Also, some spontaneous dominant genetic diseases, epilepsy and even some birth defects have been linked to paternal contribution<sup>7</sup>.



**Dr Eeson Sinthamoney**  
is a Fertility Specialist and Director at Sunfert International Fertility Center

The role of oxidative stress on sperm quality has been evaluated for many decades. Recent evidence estimates that oxidative stress related sperm issues may be implicated in between 25%–87% of male infertility cases. While the production of reactive oxygen species (ROS) is a normal phenomenon for all human cells, sperm are more vulnerable and prone to oxidative stress compared to other cells due to its lack of cytoplasm. Cytoplasmic antioxidant enzymes are important for directly scavenging and repairing the damage of ROS. In spermatogenesis however, the cytoplasm is removed in the final stages, therefore leaving them without these vital enzymes to protect DNA from ROS damage. Certain environmental and lifestyle factors such as smoking, stress, obesity and some nutritional factors may increase oxidative stress.

More recently, there has been renewed interest in the role played by ROS and increased DNA fragmentation in the spermatozoa (sperm DNA fragmentation – SDF). While usually associated with abnormal semen parameters, a significant proportion of men (20%–40%) with otherwise

normal semen parameters have high SDF. In fact, some studies have attributed 40% of all cases of unexplained infertility to increased amount of sperm DNA damage<sup>8</sup>. Sperm with fragmented DNA may fertilize an egg with similar efficiency as sperm without DNA fragmentation. However, the negative impact of a damaged paternal chromatin to the integrity of embryonic genome is usually observed after implantation<sup>9</sup>.

Studies that have evaluated the impact of increased DNA fragmentation have shown that higher fragmentation rates are associated with reduced natural pregnancy rates, an increased time-to-pregnancy and reduced pregnancy rates with assisted reproductive techniques. An association with impaired embryo quality and higher spontaneous miscarriage rates has also been shown<sup>10,11,12</sup>. It has therefore often been argued that sperm fragmentation rates should be introduced as part of standard male assessment in couples with infertility as well as recurrent miscarriages.

To further compound the problem, sperm preparation either for IVF or intracytoplasmic sperm injection (ICSI) usually necessitates identifying sperm with good motility, as it is well-known that highly motile sperm have a higher chance of fertilizing the oocyte. The commonly used sperm preparation techniques such as the swim-up technique and density gradient centrifugation methods<sup>13,14</sup> may unfortunately generate higher concentrations of reactive oxygen species due to repetitive centrifugations, thereby leading to higher sperm DNA fragmentation and even poorer sperm quality<sup>13,14,15</sup>.

While several different tests for sperm DNA fragmentation exist, each with its inherent advantages and disadvantages, the jury is still out on which particular test reigns supreme. That said, tests based on the Sperm Chromatin Dispersion Test (SCD) technique may likely have the best potential to reach clinical utility due to its inherent advantage of cost, simplicity and reasonable efficacy. In this technique, controlled DNA denaturation facilitates the subsequent removal of proteins contained in each spermatozoon. Normal spermatozoa therefore, creates halos formed by loops of DNA at the head of the sperm, which are not present in those with damaged DNA.

Several strategies have been proposed to overcome SDF in couples undergoing ART. These options include varicocele repair, oral antioxidant therapy, a short ejaculatory abstinence period or even recurrent ejaculations. Simultaneously, several laboratory sperm selection techniques have also been assessed. The use of testicular rather than ejaculated sperm for ICSI among men with high SDF has also become increasingly popular due to reported better pregnancy outcomes<sup>16,17</sup>. Unfortunately, the small study cohorts and lack of control groups provide only limited support for this option<sup>6</sup>.

Recently, a microfluidic chip for sperm selection has been developed to select sperms with higher DNA integrity, motility and morphology for IVF and ICSI procedures<sup>14</sup>. Microfluidic technology was developed by integrating different principles namely, chemo-attractant gradients, fluidic flow and thermotactic forces<sup>14</sup>.

A microfluidic chip is a single use chip connected to an inlet sample chamber and outlet collection chamber by a microfluidic channel. A raw semen sample is loaded onto the inlet chamber of the microfluidic chip and left aside for incubation. The size of the microchannels between the inlet and outlet port hydrodynamically constrains the movement of the compromised sperm while letting the motile sperms to advance to the outlet. Sperms that pass through the porous membrane of the chip into the upper chamber that contains the fertilization culture medium are spermatozoa with the highest progressive motility and with superior chromatin integrity<sup>15</sup>. It is well established that microfluidic sperm selection is effective in analysing a wide array of sperm samples compared to conventional methods. It is also proven to be cost effective and involves minimal operator skills<sup>13,14</sup>.

In summary, clinicians should consider high sperm DNA fragmentation as a plausible 'unseen' cause of infertility, unexpected poor outcome in fertility treatment or recurrent miscarriages especially if all other factors have been taken into consideration. Furthermore, DNA fragmentation testing allows assessment of the male genomic contribution from a different and more dynamic perspective compared to the standard simple method used.

## Reference:

1. Thonneau, P., Marchand, S., Tallec, A., Ferial, M.L., Ducot, B., Lansac, J., Lopes, P., Tabaste, J.M. and Spira, A. (1991) 'Incidence and main causes of infertility in a resident population (1,850,000) of three French regions (1988-1989)' *Hum Reprod.* 1991 Jul; 6(6):811-6.
2. Hamada, A., Esteves, S.C., Nizza, M. and Agarwal, A. (2012) 'Unexplained male infertility: diagnosis and management' *Int Braz J Urol.* 2012 Sep-Oct; 38(5):576-94.
3. Hamada, A., Esteves, S.C., Nizza, M. and Agarwal, A. (2013) 'A clinical appraisal of the genetic basis in unexplained male infertility' *J Hum Reprod Sci.* 2013 Jul; 6(3):176-82.
4. Reichenberg, A., Bresnahan, M., Rabinowitz, J., Lubin G. and Davidson, M. (2006) 'Advancing paternal age and autism', *Archives of General Psychiatry*, 63(9), pp. 1026-1032.
5. Sipos, A., Rasmussen, F., Harrison, G., Tynelius, P., Lewis, G., Leon, D.A. and Gunnell, D. (2004) 'Paternal age and schizophrenia: A population based cohort study', *British Medical Journal*, 329 (7474), pp. 1070-1073.
6. Ji, B.T., Shu, X.O., Linet, M.S., Zheng, W., Wacholder, S., Gao, Y.T., Ying, D.M. and Jin, F. (1997) 'Paternal cigarette smoking and the risk of childhood cancer among offspring of nonsmoking mothers', *Journal of the National Cancer Institute*, 89(3), pp. 238-244.
7. Aitken, R.J., De-Luliis, G.N. and Mclachlan, R.I. (2009) 'Biological and clinical significance of DNA damage in the male germ line', *International Journal of Andrology*, 32(1), pp. 46-56
8. Bungum, M., Bungum, L. and Giwercman, A. (2011) 'Sperm Chromatin Structure Assay (SCSA): A tool in diagnosis and treatment of infertility', *Asian Journal of Andrology*, 13(1), pp. 69-75.
9. Tesarik, J., Greco, E. and Mendoza, C. (2004) 'Late, but not early, paternal effect on human embryo development is related to sperm DNA fragmentation', *Human Reproduction*, 19(3), pp. 611-615.
10. Agarwal, A., Cho, C.L. and Esteves, S.C. (2016) 'Should we evaluate and treat sperm DNA fragmentation?', *Current Opinion in Obstetrics and Gynecology*, 28(3), pp. 164-171.
11. Giwercman, A., Lindstedt, L., Larsson, M., Bungum, M., Spano, M., Levine, R.J. and Rylander, L. (2010) 'Sperm Chromatin Assay as an independent predictor of fertility in vivo: A case-control study', *International Journal of Andrology*, 33(1).
12. Saleh, R.A., Agarwal, A., Nelson, D.R., Nada, E.A., El-Tonsy, M.H., Alvarez, J.G., Thomas, A.J. Sharma, R.K. (2002) 'Increased sperm nuclear DNA damage in normozoospermic infertile men: A prospective study', *Fertility and Sterility*, 78(2), pp. 313-318.
13. Asghar, W., Velasco, V., Kingsley, J.L., Shoukat, M.S., Shafiee, H., Anchan, R.M., Mutter, G.L., Tuzel, E and Demirci, U (2014) 'Selection of Functional Human Sperm with Higher DNA Integrity and Fewer Reactive Oxygen Species', *Advanced Healthcare Materials*, 3(10), pp. 1671-1679. doi: 10.1002/adhm.201400058.
14. Knowlton, S. M., Sadasivam, M. and Tasoglu, S. (2015) 'Microfluidics for sperm research', *Trends in Biotechnology*. Elsevier Ltd, 33(4), pp. 221-229. doi: 10.1016/j.tibtech.2015.01.005.
15. Parrella, A., Keating, D., Cheung, S., Xie, P., Stewart, J.D., Rosenwaks, Z. and Palermo, G.D. (2019) 'A treatment approach for couples with disrupted sperm DNA integrity and recurrent ART failure', *Journal of Assisted Reproduction and Genetics*, 36(10), pp. 2057-2066. doi: 10.1007/s10815-019-01543-5.
16. Esteves, S.C., Sanchez-Martin, F., Sanchez-Martin, P., Schneider, D.T. and Gosalvez, J. (2015) 'Comparison of reproductive outcome in oligozoospermic men with high sperm DNA fragmentation undergoing intracytoplasmic sperm injection with ejaculated and testicular sperm' *Fertil Steril.* 104(6), pp.1398-405.
17. Mehta, A., Bolyakov, A., Schlegel, P.N. and Paduch, D.A. (2015) 'Higher pregnancy rates using testicular sperm in men with severe oligospermia' *Fertil Steril.* 104(6):1382-7.

# VERTICAL TRANSMISSION OF SARS-CoV-2: THE JURY IS OUT

Dr Voon Hian Yan is a Maternal Fetal Medicine Fellow serving in Sarawak GH & tries his best to advocate evidence-based practice. He will contribute a series of articles based on recent development which he feels may improve one's practice. Hian Yan is periodically reminded by his better half/personal ophthalmologist to have his "vision" reassessed from time to time, inspiring the title of his column in CONNECT, "REFLECT TO REFRACT"



*For a foetus to be infected by SARS-CoV-2, the causative agent for COVID-19, it would first have to be able to pass through the placental barrier; its presence detected in the amniotic fluid, cord blood and pharynx. More conclusive evidence of infection would arise from its detection in foetal lung tissues.*

## ACE-2 RECEPTORS ARE PRESENT IN THE PLACENTA, BUT NO VIRAL RNA HAS BEEN DETECTED

SARS-CoV-2 has shown genomic similarity (79%) to SARS-CoV which caused the SARS outbreak in 2002/3.<sup>1</sup> Unsurprisingly, both viruses utilise the angiotensin-converting enzyme 2 (ACE-2) receptor for host cell invasion. ACE-2 receptors have recently been detected in various cells at the maternal-foetal interface.<sup>2</sup>

However, in a small series of pathological studies of the placenta, no morphological changes suggestive of infection or viral nucleic acid were found.<sup>3</sup>

## SARS-CoV-2 HAS NOT BEEN DETECTED IN AMNIOTIC FLUID, CORD BLOOD OR BREAST MILK

In women confirmed to be COVID-19 positive, diagnosed in the third trimester and underwent caesarean delivery, SARS-CoV-2 was not detected in the amniotic fluid, cord blood or breast milk.<sup>4</sup>

## SARS-CoV-2 HAS RECENTLY BEEN DETECTED IN THROAT SWAB OF NEWBORN ISOLATED FROM MOTHER SINCE BIRTH

In one case report from Wuhan Tongji Hospital, the pharyngeal swab of a newborn had returned positive for COVID-19 PCR at 36 hours of life. The newborn was delivered via caesarean section and isolated from the mother at birth. He had lymphopenia and raised liver enzymes but was well otherwise. The placenta and cord blood were retrospectively sent for analysis, and both were negative for SARS-CoV-2. The newborn's mother was initially presented with a fever and respiratory symptoms, with chest CT suggestive of viral pneumonia.<sup>5</sup>

Longitudinal serological follow-ups of the newborn with IgM and IgG, which I feel is necessary to further support the evidence of INTRAUTERINE vertical transmission, were not reported by the authors.

## POSTPARTUM TRANSMISSION CAN OCCUR

While SARS-CoV-2 has not been detected in breastmilk to date, the act of nursing the child in close proximity can transmit the virus to the newborn via respiratory droplets.<sup>4,6</sup> This is akin to person-to-person transmission in adults.

Scientific evidences on SARS-CoV-2 and COVID-19 continue to be updated. As clinical commentaries and guidelines are released in an expedited manner by various journals and institutions, one would have to exercise caution in their interpretation. What we think we know today, may not hold in the coming weeks; therefore, guidelines or recommendations should be considered as "living" documents. Moreover, most of the evidence citing absence of intrauterine vertical transmission are limited to infection occurring in the third trimester. The author has written the column "Reflect to Refract" in good faith based on his best knowledge at the time of writing.

### References

1. Lu R, et al. Genomic characterisation and epidemiology of 2019 novel coronavirus: Implications for virus origins and receptor binding. *Lancet* 2020; 395:565-74.
2. Li M, et al. The SARS-CoV-2 receptor ACE2 expression of maternal-fetal interface and fetal organs by single-cell transcriptome study. *PLoS One*. 2020; 15(4): e0230295.
3. Chen S, et al. Pregnant women with new coronavirus infection: A clinical characteristics and placental pathological analysis of three cases. *Zhonghua Bing Li Xue Za Zhi*. 2020 Mar 1;49(0):E005.
4. Chen H, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: A retrospective review of medical records; *Lancet* 2020 Mar 7; 395(10226):809-81.
5. Wang S, et al. A case report of neonatal COVID-19 infection in China. *Clin Infect Dis*. 2020.
6. Zeng L, et al. Neonatal Early-Onset Infection with SARS-CoV-2 in 33 neonates born to mothers with COVID-19 in Wuhan, China. *JAMA Pediatr*. 2020. doi:10.1001/jamapediatrics.2020.0878.

**Miscarriages  
caused by DNA  
damage in sperm?  
Inform your  
patients!**

**#1** **PROVEN  
EFFICACY  
IN MALE  
FERTILITY**

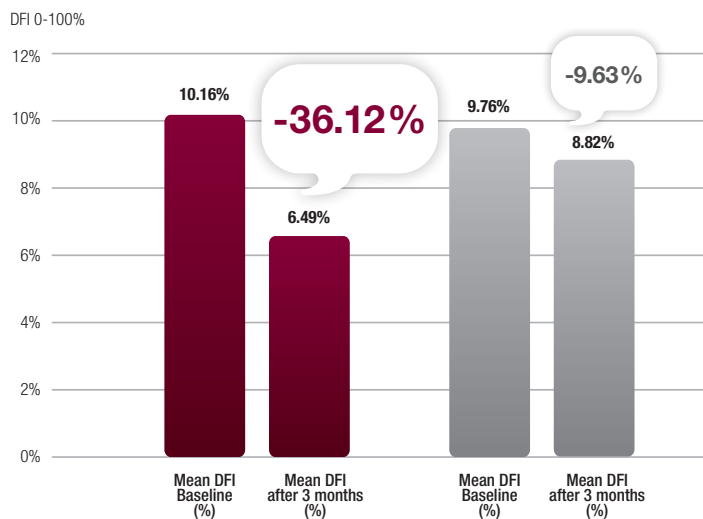
**PREGNANCY  
RATE  
AVG. 26-41%**



profortil.my

**2 studies confirm:**

**PROFORTIL® EFFECTIVELY REDUCES  
DNA DAMAGE IN SPERM CELLS**



**28%**  
**Pregnancy rate  
in PROFORTIL® -  
Group**

**Profortil® significantly reduces sperm DNA fragmentation <sup>1)</sup>  
after a 3 month-regimen.**

\*) DNA-Study 2019; Measured with sperm chromatin dispersion (SCD) technique, will DNA integrity in spermatozoa increase after micronutrient supplementation? A retrospective study; Eidenberger F. et al; published in Fertility & Reproduction, Volume 1, Issue 3, September 2019; patients (n = 306); Profortil® group: n = 146, control group: n = 160; inclusion criteria: ≥ 1 year of subfertility and ≥ 2 pathological semen analyses; exclusion criteria: azoospermia, aspermia, varicocele, recent urogenital infections. First results presented by Prof. Dr. Martin Imhof at Aspire 2019.

# NICC<sup>®</sup>

## Non-Invasive ChromosomesCheck

Non-Invasive Prenatal Test (NIPT) that screens for trisomies, sex chromosomes aneuploidy and microdeletions as early as 10 weeks of pregnancy



### SAFE FOR BABY, PEACE OF MIND FOR MOMMY



#### Accurate

99% accuracy for the detection of Trisomy 21, 18 and 13



#### Protected

NICC<sup>®</sup> is covered by insurance and provides complimentary diagnostic test for high risk cases



#### Safe

NICC<sup>®</sup> is non-invasive, there is no risk of miscarriages



#### Peace of mind

NICC<sup>®</sup> provides complimentary post-test genetic counselling for high risk cases