



# NEWSLETTER



March to June 2022  
(Issue 8 - Page 1)

## THE WORLD HEART FEDERATION

### ANNOUNCEMENT

## INOCA International becomes an Associate Member of The World Heart Federation

*"We are honoured to be working with this amazing organisation and look forward to the many wonderful things we might achieve together in the future!"*  
*(Maria George, Founder of INOCA International)*



## CONNECT WITH US

[www.INOCAInternational.com](http://www.INOCAInternational.com)  
(or use the QR Code above right)

For our Facebook Information Page  
<https://www.facebook.com/groups/491395198372627>

We also have a Twitter page  
<https://twitter.com/InocalInternati>

And a private INOCA Case Discussion Group and Resource Centre for Doctors on MedShr  
[MedShr.it/INOCA](https://www.MedShr.it/INOCA)



Instagram



TikTok



MedShr



Twitter

## IN THIS ISSUE

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**INOCA INNOVATIONS**  
*Highlighting recent publications and research, chosen by INOCA International, with dedicated narratives from the authors*

If you haven't seen the WHF Campaign or the video yet just follow the links below!

You can also read about Charmaine's experience of giving her Testimonial on page 4 of this newsletter.

According to the latest figures from the campaign, Charmaine's testimonial was the campaign's top performing post on Twitter and Instagram. Great news and many congratulations to Charmaine!

**Charmaine's Video** - <https://world-heart-federation.org/resource/video-testimonial-anging/>

**WHF 2022 Campaign** - <https://world-heart-federation.org/use-heart-to-act-now-on-anging/>



Welcome to the latest edition of the INOCA International Newsletter and what better way to start our Newsletter than to share the news that INOCA International has joined The World Heart Federation as an Associate Member!

The voice of The WHF is heard across the world with their excellent campaigns and projects reaching an audience of millions.

We are honoured to join this outstanding organisation and look forward to working together to further improve the global recognition and understanding of INOCA.

A special Thank You goes out to The World Heart Federation for recognising the work of INOCA International and for presenting this exciting and rewarding opportunity!

The World Heart Federation recently launched their 2022 Angina Campaign which featured a patient testimonial from Australian INOCA patient Charmaine.

# INOCA PODCAST with PROFESSOR JUAN-CARLOS KASKI

## Are you ready for our Podcast Series?

In the first of our podcast series we welcome the Chair of The INOCA International Medical Advisory Board  
**Professor Juan-Carlos Kaski**



Follow us on Twitter and sign up to our Newsletter to keep up to date with all the latest INOCA International information!

[inocainternational.com/contact](http://inocainternational.com/contact)

**INOCA INTERNATIONAL**

**ON AIR**

Get ready for the INOCA International podcast series! Specially designed for both Doctors and Patients

**COMING SOON!**  
[www.INOCAInternational.com](http://www.INOCAInternational.com)

At INOCA International we continue to offer as many options as possible for patients and medical professionals to improve their knowledge and understanding of INOCA.

Our podcast series is made up of easy to digest, nuggets of information that are available at the most convenient time for you. Whether on your way to work, enjoying a coffee break, sitting on the train, or doing the housework, just choose the episode you want to listen to, tune in and off you go!

In the first of our Podcast episodes we are truly delighted to welcome the Chair of the INOCA International Medical Advisory Board, Professor Juan-Carlos Kaski!

The date of our first Podcast will be announced soon, so make sure you are following us on our INOCA International platforms, so you can keep updated!

# MEDSHR

Have you joined us yet?  
**The INOCA International Case Discussion Group and Resource Centre**  
A private, doctors only group, where you can discuss and consult on INOCA cases with leading experts!  
[Medshr.it/INOCA](http://Medshr.it/INOCA)

- Learn about INOCA conditions
- Discuss cases with world leading experts
- Consult on cases with global colleagues
- Access INOCA International resources
- Access information modules on INOCA

**ANNOUNCEMENT**  
INOCA International becomes an Associate Member of **The World Heart Federation**

**ANNOUNCING**  
THE INOCA INTERNATIONAL Case Discussion Group and Resource Centre on MedShr

**INOCA International Case Discussion Group and Resource Centre**  
Discuss cases and share knowledge in forums and live educational courses. Join us on MedShr, INOCA International Case Discussion Group and Resource Centre on MedShr.

**INOCA International**  
Raising awareness, furthering understanding and improving care for patients with INOCA  
*Raising the Standard. Reaching the World*  
[www.INOCAInternational.com](http://www.INOCAInternational.com)

Are you a Doctor? Have you joined our private INOCA Case Discussion Group on MedShr yet?  
[MedShr.it/INOCA](http://MedShr.it/INOCA)

# Did You Know...



A @WHO and @ilo analysis shows that working 55 hours or more per week increases the risk of cardiovascular disease...  
<https://t.co/UdqYrFRDyw>  
3:39 - 17 June

# SPEAKING YOUR LANGUAGE

INOCA International are delighted to announce that we are currently in the process of having the information on our website translated into not one, but two further languages, Chinese and Spanish! We are certainly living up to our International name by sharing knowledge and spreading awareness of INOCA conditions worldwide!

We are delighted to be working in collaboration with The Chinese Noninvasive Cardiovascular Imaging and Physiology Study Group (CHART) and Asociacion Nacional de Addison y Otras Enfermedades Endocrinas (Adisen) who are very kindly translating our INOCA International materials to facilitate understanding in INOCA even further afield than ever before!

**INOCA International ANNOUNCEMENT**  
Working in kind and welcome collaboration with **The Chinese Noninvasive Cardiovascular Imaging and Physiology Study Group (CHART)**

INOCA International are delighted to announce that the INOCA International materials on our website are currently being translated into Chinese, raising global awareness and understanding of INOCA conditions to an even wider audience than ever before! Look out for the upcoming translation options on our website!

With sincere and grateful thanks to all the team at CHART!

[www.INOCAInternational.com](http://www.INOCAInternational.com)

**INOCA International ANNOUNCEMENT**  
Working in kind and welcome collaboration with **Adisen, Asociación Nacional de Addison y Otras Enfermedades Endocrinas**

INOCA International are delighted to announce that the INOCA International materials on our website are currently being translated into Spanish, raising global awareness and understanding of INOCA conditions to an even wider audience than ever before! Look out for the upcoming translation options on our website!

With sincere and grateful thanks to all the team at Adisen!

For what is best in all points of view, **translation** another language for a language for a written com!

**ESPAÑOL**

[www.INOCAInternational.com](http://www.INOCAInternational.com)

# INOCA International



Our INOCA International video has already been viewed on Twitter over **9,500 times!**  
Please keep liking and retweeting our posts to continue raising awareness worldwide  
**Thank you** to our Twitter family of over 3,000 followers!

**Twitter - @inocainternati**  
**Website - INOCAInternational.com**



# The Art of Achieving a Steady Blood Glucose

Dr Ailsa Care



I recently attended the 3 day Integrative and Personalised Medicine Congress in London. It was an event with amazing international speakers attended by over 1000 practitioners all with a common aim - to work together in a positive way to improve the health of those suffering with chronic diseases whether that be a physical health issue or a mental one.

One of the key messages was around improving our metabolic health. That means balancing our blood sugars so that we are not experiencing high glucose levels which drive inflammation. The majority of chronic diseases including mental health issues are associated with inflammation, so it makes sense to try and reduce the root causes of that inflammation.

We all know that diabetes is caused by high levels of glucose in our blood but even if we are not diabetic or pre-diabetic, depending on what we eat and how we eat it we can still experience potentially damaging spikes in blood glucose.

So how can we improve our blood sugar balance? I recently read a book called Glucose Revolution by Jessie Inchauspe which i think gives some easily implemented tricks/tips for doing just that.

To reduce the damaging effects of having excessive glucose in our circulation we release insulin. The purpose of insulin is to store excessive glucose in our liver, muscles and once those stores are full, as fat. If the glucose is delivered too quickly and overwhelms our ability to release insulin and store the glucose, blood glucose levels will remain high resulting in inflammation. If we can eat the right foods in such a way that they release their sugars more slowly we can reduce the risk of this overwhelm.

**INSULIN**



Also by avoiding eating excessive amounts of sugars and refined starches we reduce the stress on the pancreas to produce more insulin and lower the likelihood of the sugars being stored as fat.

How does poor blood glucose balance affect us?

Feeling constantly hungry - "you can eat two meals containing the same number of calories but the one that leads to a smaller glucose spike will keep you full for longer"

Food cravings - especially for higher calorie foods

Chronic fatigue - I love the analogy in the Glucose Revolution book of a man (he is the mitochondria which produce energy in cells) shovelling coal (glucose) into a steam train fire to fuel the train. If we have imbalanced blood sugars with frequent spikes or constantly high levels of glucose (like in diabetes), it is like he is receiving deliveries of coal faster than he can cope with and soon the cab he is working in fills up and he can no longer shovel the fuel into the fire. So we end up with impaired mitochondrial function and feel this as reduced energy or fatigue.



Poor sleep - you may wake in the night with a pounding heart as your blood glucose levels drop and so your body will release adrenaline to mobilise glucose from your stores. Much better to reduce your glucose spikes and get a good nights sleep!

Impaired immunity - after a glucose spike your immune system is unable to function optimally and you will be more susceptible to infections.

Hot flushes and night sweats - symptoms of menopause are more troublesome in women who have higher glucose and insulin levels

Migraine - associated with insulin resistance/poor blood glucose balance



Memory and cognitive function issues including Alzheimer's/dementia

Ageing and arthritis

Increased cancer risk - because cancer cells love glucose

Depression - your brain gets inflamed

Gut symptoms such as heartburn, reflux, IBS (unhealthy gut microbes love sugar)

Heart disease - when insulin levels are high the liver produces small dense forms of LDL cholesterol

Insulin resistance and type 2 diabetes

Non-alcoholic fatty liver disease - this results in impaired liver function due to the accumulation of fat in the liver as a result of too much glucose and raised insulin levels

continued...

## DR CARE (Continued 1)

How can you flatten your glucose curve? (These tricks/tips are taken from the Glucose Revolution book)

1. Eat foods in the right order - fibre (vegetables or salad) first, then protein and healthy fats, lastly starches (carbohydrates) and sugars. Tracking blood glucose levels with a continuous blood glucose monitor has shown that eating foods in this order lowers blood glucose spikes and flattens the curve.

2. Add a green starter to all your meals - such as a side salad or even hummus and crudité's - there's your fibre!

3. Stop counting calories - foods with the same number of calories will have very different effects on your blood glucose curve. They will also come with a different profile of micronutrients (vitamins and minerals) which give additional benefits.

4. Flatten your breakfast curve by moving away from sweet products, especially packaged cereals, and going savoury, including fibre, protein and healthy fat. If we start the day with just starches and sugars we will fuel the blood glucose rollercoaster.

5. Have any type of sugar - they are all the same in terms of generating blood glucose spikes. You are better to use whole fruit which also contains fibre and other micronutrients if you are needing something sweet. Be careful with artificial sweeteners. Some still raise insulin levels, but then there is no excess glucose to be stored resulting in low glucose levels and a drive to eat something sweet. Over time I have found that reducing my sugar intake changes my tastebuds so that I no longer enjoy something very sweet. (At one time I used to eat a lot of sugar!)



## "IT'S SO GREAT TO ADVOCATE!"



The latest figures from the World Heart Federation show that 43% of angina patients are under recognised and 60% are not receiving optimal medical therapy - that's an astonishing report for what is often a medically treatable condition and part of why I felt it was so important to share my story for their recent campaign.

INOCA International was mentioned both in the youtube video testimonial and also in the credits by the WHF, acknowledging the increasingly important work of the INOCA International Group in bringing awareness to the international medical community of Cardiology and beyond.

My testimonial represents the various faces of angina: not only the female face, but also those of non-European descent, and those with an INOCA (non-typical CVD) condition. It also highlights the struggle of INOCA patients to receive timely diagnosis and appropriate treatment.

In the words of the Angina Campaign leader - **"This is such an important voice and call to action and we hope this will increase awareness of such an important and dramatic condition"**

And to quote my own Cardiologist (one of the doctors listed on the INOCA International website:) **'This is an important step for International awareness of INOCA conditions'**

Hearing these supportive comments reminds me of just how important this campaign is and of just how important it is to record my journey.

It felt very empowering to share my story showing just some of the difficulties INOCA patients face, and highlighting the importance of self-advocacy, of symptom management and of patient adherence to prescribed medication.

I am so grateful to INOCA International and to The World Heart Federation for giving me the opportunity to record this video for the 2022 Angina Campaign.

[youtu.be/-LeDAr5gz-U](https://youtu.be/-LeDAr5gz-U)



**18.6m**  
deaths every year  
from CVD

**33%**  
of all deaths are  
from CVD



## DR CARE (Continued 2)

6. Pick desert over a sweet snack - if you are out and about and fancy something sweet that you see, remember how to eat your food and save it as desert at the end of your meal

7. Reach for vinegar before you eat - taking 1 tbsp of vinegar in a large glass of water and sipping it before you eat serves to flatten your curve by inhibiting the enzyme which breaks down starch into sugars. (Make sure you dilute the vinegar enough as otherwise it can affect your tooth enamel due to it's acidic nature)

8. After you eat, move - just 10 minutes of light exercise/movement after eating (such as a short walk) flattens your glucose curve. The effect is greater after a meal compared to before.

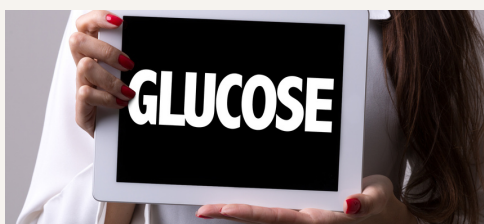
9. If you have to snack, go savoury- you could try yoghurt topped with chopped nuts, carrots and hummus, a hard boiled egg, seeded crackers and cheese, macadamia nuts and a square of dark chocolate

10. Put some clothes on your carbs - this means combining your carbs with fibre, fat and/or protein. For example having avocado and smoked salmon on your toast, or spreading a nut butter on slices of apple

I hope I have given some insights into the importance of blood sugar balance and some easily actionable tips to try.

If you are diabetic please work with a health professional if you are trying these tips, as improving your blood glucose balance is likely to result in a reduced need for medications.

You can also access information from Jessie Inchauspe on Instagram where she has a Glucose Goddess community.



## INOCA INTERNATIONAL ON SOCIAL MEDIA PLATFORMS

Below are just a few of the video clips we have shared on our INOCA international Social Media platforms since our last newsletter just 3 months ago. If you missed any of them, check them out now on our Twitter, Facebook, Instagram and TikTok pages, or visit the videos page of our website, here -

<https://inocainternational.com/videos/>

With the support of so many global experts in the field, we are privileged to have such an outstanding collection of videos to share - all of which are, as always, available to view completely free of charge on the INOCA International website.



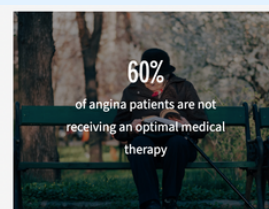
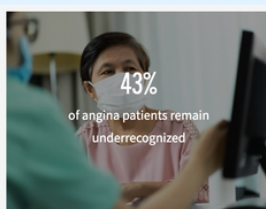
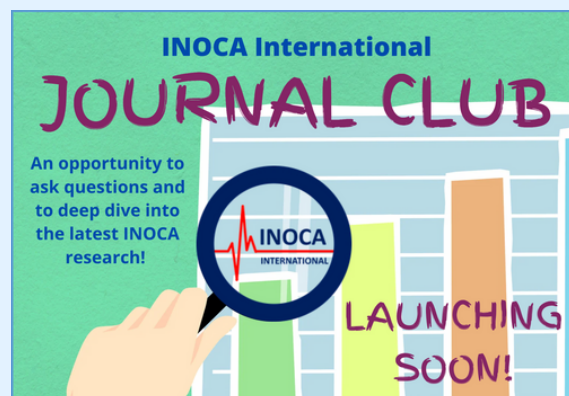
## INOCA JOURNAL CLUB

Are you signed up to our brand new JOURNAL CLUB yet? This is a great new initiative for professionals and patients alike.

Select from a choice of 2/3 recent papers, submit your questions, then see video answers direct from the authors themselves!

If you would like to deep dive with us into the latest INOCA research, you can register your interest by emailing -

[journalclub@inocainternational.com](mailto:journalclub@inocainternational.com)



# SUMMARY SHEETS, ALERT CARDS, INFOCARDS and MORE!

In collaboration with our extremely knowledgeable Medical Advisory Board, whose input is always invaluable, INOCA International are proud to present our series of easy-to-read and easy to understand summary sheets.

These sheets can be helpful to share with family, friends, GPs, doctors, care teams and beyond!

Each sheet follows a similar format outlining; What the condition is. What it feels like. What the triggers might be. What can be done to help relieve the symptoms. What tests might be done and what medication might be used to treat it.

These sheets are written in simple, easy to read, non technical language. For each summary sheet, there is also an Easy-Read version available too, on the Patient Information Page of our website. The Easy Read versions have been created for those who might prefer visual learning or who might perhaps require visual support.

All the sheets are freely available to download from the INOCA International website and can all be found on the Patient Information Page here -

[inocainternational.com/patient-information/](https://inocainternational.com/patient-information/)

In addition to our current Summary Sheets on Microvascular Angina, Coronary Artery Spasm and Takotsubo, a summary sheet on MINOCA is also about to be finalised, so this too will also be available on the website soon!

The team at INOCA international have also been working on bringing together a series of printed materials that are available for download direct from the website. These include a Medical Alert Card, and an INOCA INFOCARD (detailing easy access QR codes for all our platforms).

Both the INFOCARDS and the Medical Alert Cards are already proving very popular!

Sometimes trying to talk in the midst of an acute episode can be very difficult. With the Medical Alert card to hand, this can help patients to share information about their condition without any added pressure. There is also space on the card to add additional information that is personal to you, if needed.

Let's talk about **INOCA Conditions!**

INOCA International were asked by patients to create a collection of very simple, very straightforward summary sheets on INOCA conditions. We are delighted to launch a series that has been created in collaboration with our extremely knowledgeable Medical Advisory Board. These sheets are free to download and available to all <https://inocainternational.com/patient-information/>

What is the condition? What does it feel like? What are possible triggers? What can we do to help with symptoms? What tests might we have? How is it treated?

**INOCA International MEDICAL ALERT CARD**

Designed by an INOCA patient and first offered at The 2019 INOCA International Meeting of Minds.

- Add important information about your own condition
- Carry it with you to assist in acute presentations
- Share the QR code with others so they too can learn more.
- Handy size for wallet/purse
- Able to be folded into a booklet to allow enclosures
- Space on the inside to include further information

Help others to help you by raising awareness and furthering understanding in INOCA conditions

Free to download and available to all

Click on the link below to get your copy!  
[Medical Alert Card](#)

[www.INOCAInternational.com](http://www.INOCAInternational.com)

INOCA International MEDICAL ALERT CARD

Let's talk about **Coronary Artery Spasm!** (Also known as Prinzmetal's/Angiospastic/Acute Angina)

Let's talk about **Microvascular Angina!** (Also known as Microvascular Dysfunction and Microvascular Angina)

INOCA International were asked by patients to create a collection of very simple, very straightforward summary sheets on INOCA conditions and we are delighted to launch the first in this series.

We also offer an easy read version which is a visual learner and for those who struggle to read text.

You can access our 2nd Summary sheet here! **Coronary Artery Spasm Summary Sheet**

You can access the 2nd of our Summary sheets here! **Microvascular Angina Summary Sheet**

**INOCA International INFOCARDS**

**Symptoms Tracker**

Did You Know... We have a fully customizable symptoms tracker available on our website!

Website: [www.INOCAInternational.com](http://www.INOCAInternational.com)

INOCA Information Page: <https://www.inocainternational.com/patient-information/>

Twitter: [INOCAinternational](https://twitter.com/INOCAinternational)

TikTok: [inocainternational](https://www.tiktok.com/@inocainternational)

Instagram: [inocainternational](https://www.instagram.com/inocainternational/)

Support Group: <https://www.facebook.com/INOCAinternational/>

**INOCA International**

**INOCA Summary Sheets**

N.B. Nothing in this newsletter should be considered in any way as advice or recommendation. All information contained in this newsletter is an opinion only and is shared here only in the hope that it is of interest to other patients and medical professionals. Always consult your own medical practitioner before trying any new medications or therapies and before changing any of your current routines.



# COFFEE TIME THOUGHTS

## DID YOU KNOW...

According to recent research, angina pectoris affects around 112 million people globally - that's an awful lot of people!

Angina can be felt as chest pain, but it can also present in other ways too. Extreme fatigue and shortness of breath are just two more reported symptoms of angina.

### ACROSS

- 2. this should be removed from poultry to reduce fat content
- 4. Fruit and vegetables can be fresh, frozen or...?
- 7. What type of fat can be found in blood that increases the chance of stroke and other health conditions?

9. This is one of the main sources of vitamin B12

10. Fruit and vegetables should make up at least this amount of your daily intake.

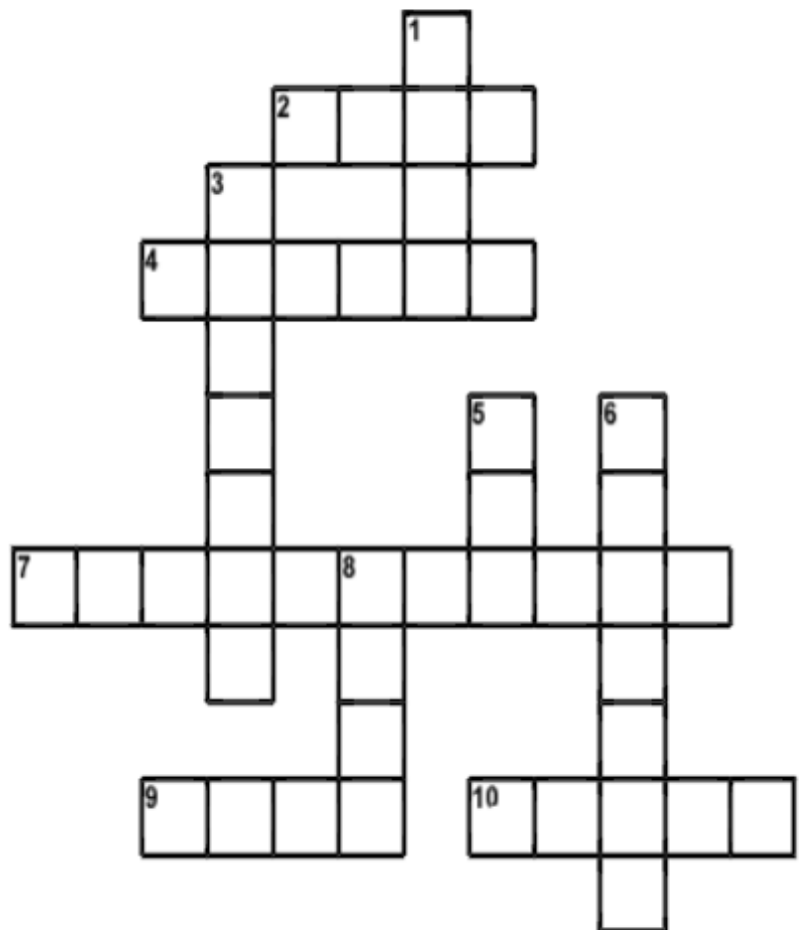
### DOWN

- 1. How many food groups are there?
- 3. What is recommended to ensure a balanced diet?
- 5. How many starchy foods should be included in each main meal?
- 6. Dairy, meat, beans and pulses are good sources of this.
- 8. Eating too much of what can raise blood pressure?

*(All information from the NHS website)*



## Search for words relating to food



# INOCA INNOVATIONS



*(Image courtesy of Issy Walker)*

The special publication issued alongside the  
**INOCA International Newsletter**

Highlighting recent research, papers, journal articles and publications chosen by INOCA International, with dedicated narratives from the authors themselves.



# Phenotype-based management of coronary microvascular dysfunction

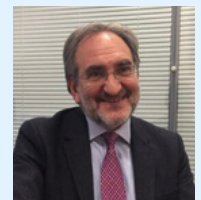
Daniel Tze Yee Ang, MBChB, MRCP,<sup>a</sup> Colin Berry, BSc, MBChB, PhD, FRCP, FACC,<sup>a</sup> and Juan-Carlos Kaski, DSc, MD, FRCP, FRSM, FESC, FACC, FAHA<sup>b</sup>

<sup>a</sup> British Heart Foundation Glasgow Cardiovascular Research Centre, University of Glasgow, Glasgow, United Kingdom

<sup>b</sup> Molecular and Clinical Sciences Research Institute, St George's University of London, London, United Kingdom

Received Mar 2, 2022; accepted Apr 10, 2022  
doi:10.1007/s12350-022-03000-w

## DR DANIEL ANG Speaks to INOCA International



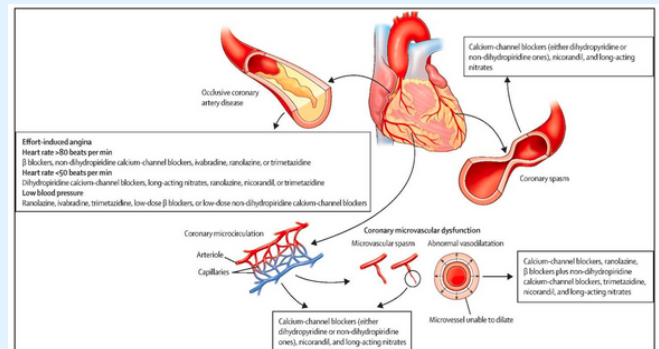
Between 40–70% of patients undergoing invasive coronary angiography with signs and symptoms of ischemia are found to have no obstructive coronary artery disease (INOCA). When this heterogeneous group undergo coronary function testing, approximately two-thirds have demonstrable coronary microvascular dysfunction (CMD), which is independently associated with adverse prognosis.

There are four distinct phenotypes, or subgroups, each with unique pathophysiological mechanisms and responses to therapies. The clinical phenotypes are microvascular angina, vasospastic angina, mixed (microvascular and vasospastic), and non-cardiac symptoms (reclassification as non-INOCA). To reduce unnecessary variation in clinical diagnosis and practice, the Coronary Vasomotor Disorders International Study Group (COVADIS) have proposed standardized criteria for diagnosis.

	No Obstructive CAD	Coronary Microvascular Dysfunction	Normal Invasive Physiology
<b>Invasive coronary angiography</b>			
<b>Pressure wire assessment (adenosine)</b>			
<b>Vasoreactivity (acetylcholine)</b>			
<b>Diagnosis &amp; Management</b>	<b>Vasospastic Angina</b> <ul style="list-style-type: none"> <li>Smoking cessation</li> <li>Calcium channel blocker</li> <li>Long-acting Nitrate</li> <li>Lifestyle changes</li> </ul>	<b>Microvascular Angina</b> <ul style="list-style-type: none"> <li>Beta-blocker (e.g. Nebivolol)</li> <li>Lifestyle changes &amp; weight loss (Cardiac rehab, smoking cessation)</li> <li>Consider ACEI &amp; Statin</li> </ul>	<b>Non-Cardiac Chest Pain</b> <ul style="list-style-type: none"> <li>Stop antianginal Rx</li> <li>Discharge from cardiology</li> <li>Consider non-cardiac investigation</li> </ul>

There is now growing awareness of these conditions among clinicians and within guidelines.

Testing for CMD can be done using invasive or non-invasive modalities. The CorMicA study advocates the concept of 'functional invasive angiography' to guide stratified medical therapy.



Therapies for CMD broadly serve one of two purposes: those that modulate cardiovascular risk and those to alleviate angina. Management should be tailored to the individual, with periodic reassessment for efficacy.

Phenotype-based management is a worthy endeavour for both patients and clinicians, aligning with the concept of 'precision medicine'. This improves prognosis, symptom burden, and quality of life. Our article presents a contemporary approach to the phenotype-based management of patients with INOCA.

Please click on the link for the full article

<https://doi.org/10.1007/s12350-022-03000-w>