GP LINK Lunches | Renuka Shanmugalingam

Dr Kenneth McCroary, Chair of Sydney South West GP Link, hosts a series of meetings with clinical/ political/regional individuals or organisations to discuss issues and solutions for GPs working in South Western Sydney.

Dr Renuka Shanmugalingam

Dr Ken McCroary

Ken McCroary - As Sydney Southwest GP Link represents our regional general practitioners with their special interests and generalist tendencies, our days are wide and varied.

While participating in obstetric clinics at Tharawal Aboriginal Medical Service recently, company director and secretary Dr Alison Thorn worked with Dr Renuka Shanmugalingam and discussed the "hypertension in pregnancy" guidelines. I thought this was a good trigger to have a chat to Dr Shanmugalingam and discuss the release of new guidelines from the Society of Obstetric Medicine Australia and New Zealand (SOMANZ).

Dr Shanmugalingam is a nephrologist and obstetric medicine physician in South Western and Western Sydney. She maintains an active clinical and research interest in renal obstetrics and has completed a PhD in hypertensive disorders of pregnancy. Dr Shanmugalingam is an executive council member of SOMANZ and led the development of SOMANZ's Hypertension in Pregnancy Guidelines 2023.

She is passionate about teaching and is the Clinical Sub-Dean at Western Sydney University's School of Medicine. She currently chairs SOMANZ's Education Committee and led the organisation at SOMANZ's inaugural virtual obstetric medicine update course 2023. She is also part of the Australian and New Zealand Society of Nephrology's Parenthood in Renal Disease working group.

Thanks for joining us Renuka. I look forward to hearing about new developments in this space. Can you tell me a bit about SOMANZ, the Society of Obstetrics Medicine Australia and New Zealand, and the new hypertension in pregnancy guidelines?

Dr Renuka Shanmugalingam - SOMANZ is unique in that it consists of a multi-disciplinary panel. It is a society of physicians, obstetricians, retinal fetal medicine physicians, a GP, dieticians, allied health staff - and we come together with one particular interest, which is women with high-risk pregnancies. We govern training for obstetric medicine in Australia and we provide ongoing education and training for those interested in obstetric medicine in Australia and New Zealand. To touch on the guidelines we recently developed, this is an update on the initial guideline first generated in 2015. The most recent guideline that we have just generated is really an evidence-based guideline where we have done systematic reviews for 30 key areas in hypertensive disorders of pregnancy. We have generated recommendations that cover the current evidence but, at the same time, takes into consideration the applicability of the recommendation and how we can put it into clinical practice. We like to think of it

as a well-balanced recommendation. We have completed public consultation and also an external and internal review by NHMRC.

Ken McCroary - You are also a member of the Australia and New Zealand Society of Nephrology, the Parenthood in Renal Disease working group - can you tell me about that?

Dr Renuka Shanmugalingam - That's another unique working group. In nephrology, we have the benefit of seeing many women at high risk of retinal complications in pregnancy. This really refers to women who have chronic kidney disease, or women who have undergone renal transplantation and want to embark on the journey of motherhood. This working group looks at the maternal and obstetric outcomes of these women and identifies areas in which we can improve the obstetric outcome. We look at prevention, pre-conception counselling and how we can support these women through their journey to motherhood. Prior to this, women who had renal disease and transplant were often discouraged from falling pregnant and told of the complications in their pregnancies and how it could potentially affect their renal health. But we have moved away from that, and we are trying to see how we can support these women into having a normal pregnancy and a good outcome.

Ken McCroary - That is good to hear. You have this drive to engage and educate GPs about post-partum care. Where does that come from, and how did you become interested in spreading the message and advocating so strongly for women's health and their outcomes?

Dr Renuka Shanmugalingam - That's an important question and perhaps what I enjoy the most about my job. The reason really comes down to giving us a clinical side of prevention. Putting both hats on - as an obstetrics and also a renal physician - what I see is that window of opportunity to prevent these patients from becoming my long-term, chronic, renal disease patients. We now know, and it is no longer a surprise, that women who've had hypertensive disorders of pregnancy are at a substantially higher risk of early onset cardiovascular cerebrovascular events and renal disease earlier, in comparison to their age-matched peers who have not had hypertensive disorders in pregnancy. To put things into context, we now know these women tend to have the onset of the cerebrovascular and cardiovascular events and risk as early as 10 years from pregnancy, where they were affected by hypertensive disorders of pregnancy. So realistically, by the time their child is 10 years of age or in very early high school these women are facing the risk, that in the general scheme of things what our 40- and 50-year-old patients would face. It's very confronting. We know hypertensive disorders in pregnancy, especially preeclampsia, are no longer a disease of just the pregnancy. What we want to focus on, and this is where we heavily rely on our GP colleagues, is early identification. What we strongly recommend is these women need to be screened in the post-partum period, at least within the first three to six months. What we want to do is to make sure there is a resolution of their hypertension, protein urea and any biochemical abnormalities identified as part of the hypertensive disorders of pregnancy. If this is found to be persistent, then this is the opportunity for early diagnosis and intervention to minimise the risk of further escalation and their risk factors. This is also what we have really driven in the guidelines. We have generated a clinician checklist to help clinicians in both community and hospital settings, to see what should be screened for and identified when they care for these women in the post-partum period. That is really important because that's where we really make a difference, preventing the onset of chronic renal disease and cardiovascular events later on in their life.

Ken McCroary - That was the thing I found most fascinating reading about preeclampsia, that the increased risk in cardiovascular disease comorbidities happens within 10 years. Do we need to be screening and proactively looking after these women and prescribing lifestyle and pharmacological interventions at probably an earlier stage than what we are doing now?

Dr Renuka Shanmugalingam - Absolutely right. While we have a lot of data on these women's risks after their pregnancy, very sadly we don't really have enough data on intervention. That's about to

change because one of my colleagues Amanda Henry, an academic obstetrician at St George Hospital, led the only RCT conducted, called the T Force Study, that's looks at the efficacy of interventions in the post-partum period. It focuses on lifestyle, including dietary changes and physical activity - so no pharmacological interventions, but really focusing of lifestyle interventions. Her data will be published in the next few months, I think, although I can't give out too much. But I must say, it really drives the fact we need to intervene early through lifestyle changes. These are changes that will save women a lifelong risk of comorbidities - that really can be prevented if we tackle them early on. While we see the value of our GPs in the post-partum period, I also see our GP colleagues' value in the early stages of pregnancy where we can intervene to minimise the risk of obstetric complications. Unfortunately, in the hospital setting we don't really see these women until they are about 18 to 20 weeks along. But our GP colleagues in the community have that benefit, and I think a lot can be done in that first trimester to change the trajectory of these women's obstetric outcomes. For example, if a woman has an underlying chronic renal disease, chronic hypertension or any risk factor that puts her at risk of developing placenta dysfunction of pregnancy we now know early intervention with aspirin, calcium where appropriate and exercise can reduce their risk of preeclampsia by up to 60 or 70 per cent. And these interventions need to come into play before 16 weeks of gestation. Again, this is where it is really valuable for our GP colleagues to screen these women early in their pregnancy and put those necessary interventions in place because, sadly, it's a bit too late when they come to see us in hospital.

Ken McCroary - Yes, it is about getting in early. Now, you work in South Western Sydney and it is an interesting demographic. We have special challenges with the population - with our Aboriginal and Torres Strait Islanders, Pacific Islanders, and refugee and CALD populations as well. Do you see unique issues with the population we see every day?

Dr Renuka Shanmugalingam - We see various issues and challenges and certainly great complexity in pregnancy. A lot of those women have got barriers, so they come with pre-existing comorbidities that in itself increases the complexity of their pregnancy. South Western Sydney has certain challenges unique to us. We have patients with underlying comorbidities, underlying socio-economic challenges, medical literacy and also language barriers and unfortunately all of them together, and even individually, increases the complexity of their pregnancies. More so the reason why we should be seeing these women early in their pregnancy, to optimise their risk factors such as weight, glycaemic control and high blood pressure. We need to spend more time with these women to provide education and counselling to convince them of the need for medications. We can empower them with the necessary information to understand why we prescribe certain interventions, and also to help them comply with the ongoing follow-up they require despite all the challenges they face. It's certainly a unique demographic that requires a different approach and sensitivity in how we deal with their care.

Ken McCroary - Apart from culture, we have different socio-economic determinants of health as well in South Western Sydney such as employment, alcohol, cigarettes and drug use. Do you find these contribute to significant adverse outcomes as well throughout pregnancy and post-partum?

Dr Renuka Shanmugalingam - We see the flow-on effect through various stages of pregnancy. Given the socio-economic challenges these women face, we quite often don't see them until late in their pregnancy. Occasionally we don't see them until the third trimester in their pregnancy, where all we can do is damage control. Or the only time we see them is where there has been an acute issue in their pregnancy. More often than not, we don't see these women in the post-partum period and realistically these are the women who really need us. These are the women who need all those interventions in that post-partum period to minimise their long-term comorbidities. But these are the women we miss.

Ken McCroary - I would like to delve a bit more into the GP's role managing hypertension in pregnancy. Are we looking at numbers 140/90, are we looking at preeclampsia, what do you see our role is and what do you recommend we should be doing?

Dr Renuka Shanmugalingam - I think step No. 1 is screening these women for their risk of preeclampsia, and there are two ways we can screen. One is for clinical risk factors which is screening them for major and moderate risk factors and also potentially utilising the more advanced screening tools we have these days with the combined first trimester screening. I think early intervention in screening these women, to optimise their issues early in their pregnancy, will make a huge difference in their pregnancy. That's where I see GPs being remarkably valuable. If a woman has been added as high risk, a GP escalating that to the closest tertiary centre for early review would be very beneficial. Let's say for argument's sake, if a women has GP-shared care then early identification of features of preeclampsia is the thing here. The diagnostic cut-off for preeclampsia is a blood pressure of more than 140/90, but the point I would like to emphasise is that when we look at the definition or diagnostic criteria of preeclampsia the most common diagnostic criteria is the presence of hypertension with proteinuria. Whilst protein urea is commonly present, it is no longer a mandatory requirement. So if you have a women with an elevated blood pressure that with new LFT changes or with features of thrombocytopenia, or with features of fetal cord restriction, she still has preeclampsia or a form of placental dysfunction even if she doesn't have proteinuria. So again, while proteinuria is very common, its absence does not exclude preeclampsia. That's something I'd like to emphasise to all my GP colleagues.

Ken McCroary - Good point. We really need to be watching blood pressure and the many traits of the condition, not just waiting for protein and swelling.

Dr Renuka Shanmugalingam - Sometimes they may be very subtle. You may have just a small rise in blood pressure with very subtle LFT changes … if there's any doubt you can always call the birthing unit or the tertiary centre closest to you to expedite the review. Most of our patients now have shared care with either midwifery staff or the obstetric colleagues in our unit, or sometimes obstetric physicians like myself are involved in the care of these women. My colleagues at Liverpool Hospital and I would be happy to be contacted by other GPs if there was a concern which needed to be reviewed urgently.

Ken McCroary - We appreciate your availability. That's always been helpful in my experience as well, thank you. We've talked about primary screening, what about prevention? There is aspirin, you mentioned calcium, there is magnesium, there is BT prophylaxis, vitamin C, vitamin E - what are thoughts on prophylaxis and prevention?

Dr Renuka Shanmugalingam - As part of our guideline development systematic review, we review 14 different preventative strategies. This included 12 pharmacological therapies or interventions, and two non-pharmacological interventions. The pharmacological interventions were aspirin and calcium, but among those was the use of garlic, magnesium, vitamin E, vitamin D, vitamin C and various other interventions you mentioned. The data really only supports the use of aspirin and calcium at present, so there is not enough evidence to recommend the use of vitamin C, E and D, garlic or omega 3 for the purpose of prevention of preeclampsia. They certainly have a role in other aspects of pregnancy, but for the purpose of prevention in preeclampsia it really comes down to aspirin and calcium for pharmacological intervention. Even with calcium, the evidence is strongest for women who are low with their calcium dietary intake so those who have less than 1g of dietary calcium intake a day. To make things easier as a part of our guidelines, we also generated a calcium intake calculator where we can punch in the amount of milk or yoghurt serves in a day, which will give you an idea on whether or not the woman requires calcium supplementation for the prevention of preeclampsia. For the non-pharmacological intervention, the two we looked at were exercise and salt restriction. Again, the data

only supports exercise; it doesn't really support the need for salt restriction as part of the preventative strategies. But when we talk about exercise it's really no different to what we would commonly recommend with general pregnancy care, which is accumulation of 2.5 to 5 hours a week of moderate intensity aerobic and anaerobic exercise. In combination, or to summarise, the three preventative strategies we would really like to drive across are aspirin, calcium and exercise.

Ken McCroary - That's what we do - part of our team, our dieticians, our exercise physiologist, our physiotherapists, we work on that sort of thing all the time. I recently did an osteoporosis audit and the number of people not eating enough calcium is overwhelming, isn't it?

Dr Renuka Shanmugalingam - It's shocking, absolutely shocking. I must say I am guilty of that as well, but the data suggests 60 per cent of Australians do not really meet their recommended dietary need of calcium intake. You would think we could do better.

Ken McCroary - I think we are nutritionally deficient in so many aspects, aren't we?

Dr Renuka Shanmugalingam - Hopefully with time, I think we can get the message out there. We might start to see a change in the future.

Ken McCroary – I've been reading about Hypitat and Help studies, looking at different meds: the central blockers, the beta blockers and the alpha blockers the vasodilators. Can you run through that for us as a summary for my colleagues?

Dr Renuka Shanmugalingam - The Hypitat trials, there were two parts to that. They basically looked at the ideal target to manage blood pressure in pregnancy. For argument's sake, the diagnostic cut-off for blood pressure of hypertension in pregnancy was 140/90. If you have a patient known to have chronic hypertension we ideally like to aim to high targets of less than 135/85 because this has been shown to minimise the risk of escalation of blood pressure and also to have better maternal and fetal outcomes in pregnancy. So, the Hypitat trial found basically tight control is better than less tight control. In terms of the choice of the agents we use, and again the matter now is that we have conducted to make the recommendations for the guidelines, and I think we will get 22 RCTs for this purpose. We couldn't really identify a particular agent that is superior to another. In summary, if you are looking at managing women with chronic hypertension antenatally, the choice of agents could be Labetalol, Methyldopa, Nifedipine and also Hydralazine. Any of these agents can be used equally, but it has to be tailored to the women in front of you. If you have a woman with acute airway disease or who has a history of asthma, you want to try to avoid Labetalol given the potential beta blocker risk of exacerbating airway disease. You might chose an alternate agent like Methyldopa or Hydralazine. Similarly, if you have a woman with known mental health-related issues, such as depression, anxiety or postpartum depression, then you might want to avoid Methyldopa given the risk of exacerbating mental health disorders. You might consider an alternative like Labetalol and Hydralazine. Recently, we were in a unique situation where we had a significant Labetalol shortage. That has certainly impacted on our choice of agents. To summarise, there isn't really an agent superior to another, and all four agents can be used equally.

Ken McCroary - I think that is a part of a generalist view at things, weighing up the choices based on the individual and their other comorbidities. It's good to see it fits in in this space as well.

Dr Renuka Shanmugalingam - To add something else, that in the postpartum period we also have the option of using Enalapril where required. If you have a woman with chronic hypertension or with renal disease and proteinuria, you could want then to still have the benefits of an ACE inhibitor. The only ACE inhibitor compatible with breastfeeding is Enalapril.

Ken McCroary - Excellent, thank you. You also do a fair bit of teaching as Sub Dean at WSU, the School of Medicine. How is that going?

Dr Renuka Shanmugalingam - Very good. I must say I am always very impressed with the enthusiasm and the knowledge our students continue to demonstrate. It's a very rewarding part of my job. We also thank our GPs who have some of our students in their practice as part of their GP rotations. I love that aspect of my job.

Ken McCroary - You have reflected quite a bit of passion in both clinical work and research with the university. How do you keep fresh, how do you keep turning up every day, how do you keep being proactive and advocating for so many women around the region?

Dr Renuka Shanmugalingam - I think it is the challenges that keep me going. I started as a trainee in South Western Sydney. I live up north in Sydney now, but I continue to love the challenges I face in South Western Sydney. It keeps me on my toes, interested and makes the job exciting. More importantly, it's where we make a difference, don't we, in South Western Sydney. Our patients, in general, come from quite a disadvantaged position most times, either socioeconomically or from a language barrier point of view. They have preexisting comorbidities and are quite often vulnerable patients who really could do with a lot of support from us. I think this is where we can make a meaningful impact and that's what keeps me going.

Ken McCroary - That's excellent to hear. I often wrap up by asking for some advice. We are an advocacy organisation and lean into education a lot, but we also look after the wellbeing of our colleagues. Do you have any advice to our GP colleagues in the regions about self-care balance and wellbeing?

Dr Renuka Shanmugalingam – It's often quite challenging to try and strike a balance, but it is definitely important. I think the COVID-19 period with the lockdown was a bit of a reality check for me and also a reminder about the need for balance. I think we should always ensure we have dedicated time for self-care – by doing what we enjoy. That might be watching a movie or hanging out with the family or catching up with friends, or even just exercise. A dedicated few hours for yourself in a day or a week, I think, makes a huge difference - just to help reset the agenda. This is something we should not forget, dedicating time for yourself.

Ken McCroary - That's great advice and really appreciated. I appreciate your time today. Thank you for what you do and for trying to educate us and bringing to us the information about hypertension in pregnancy guidelines. I look forward to the release.

Dr Renuka Shanmugalingam – Thank you for having me, Ken, and giving me this opportunity. I really appreciate the chance to reach out to my GP colleagues. I will certainly continue to keep you posted on how we go, but also remember to let us know how we can continue to support and help you.

Remember if you're not a member of GP Link already or you would like to learn more log onto our website at https://sswgp.link/.