Mastering cholesterol to optimise CVD prevention webinar series

Preventing Premature CVD: Familial Hyperlipidaemia (29 June 2023)

Q&A with Marie Wilcock (MW), Joanne Brown (JB) and Sue Kemsley (SK)

Question 1

Some patients with high cholesterol may not know their family history, for example if they do not know their birth parents. What should be done in these cases?

MW: We've had a couple of patients, with significantly high cholesterol who have been adopted and have no information of biological relatives and I think in these cases if there are other first degree relatives i.e. they have their own children or have made contact with biological siblings, that being adopted should not stop you accessing genetic testing. I think if there are people at risk that could benefit from cascade testing should they prove positive, then without a family history, they should still be offered cascade screening if their cholesterol levels are high enough.

Question 2

Is a one-off value of high cholesterol enough to refer for FH screening, or should the test be repeated in primary care first?

SK: Usually the test will be repeated in primary care. Usually, it would be a fasting test to ensure you've got an LDL-level, so you've got the full lipid profile. It is really important that you do exclude secondary causes as well, particularly if triglycerides are high. I am sure the FH service does come across patients where it is actually a secondary cause rather than FH. But yes, usually we will do a secondary lipid profile in primary care.

Question 3

Is there a particular timeline that patients should be referred to obstetricians, if they find that they are unexpectedly pregnant whilst on lipid lowering therapy?

JB: To my knowledge, the timeline really should be maximum 14 days, so obviously the sooner the better. I don't know whether Sue has anything to add to that?

SK: That would sound eminently sensible. I guess it is achieving that in reality. I can't say that I've had anybody in recent times that I have had to get seen in those times, but, that would be an ideal.

Question 4

At what age should treatment start; what is the lower age thresholds for the various therapies and do paediatricians need to get involved below a certain age?

MW: So, I think we fall in line with most FH services across the country that the aim is, if paediatric cases need to be on therapy, they should be on therapy by the age of 10. We start offering cascade

screening to paediatric relatives around the age of 8/9/10 and it's counselling the parents as well to get that timing right. Unfortunately, like most services, we don't have an in-house paediatrician who then looks after paediatric positive cases within Blackpool. But any positive cases we have are then referred to paediatric services at St Mary's in Manchester and they then look at their blood profile and then it is down to the paediatrician as to when they will start on statin therapy. If their levels are high enough at that age, they will start on statin therapy; at the age of 10. Sometimes they are monitored as they get older and are generally reviewed every six months within that paediatric service.

Question 5

Identifying FH patients doesn't feature highly in the financial incentives for 2023/24. I am wondering how to approach this, given so many other priorities; many of which are better incentivised.

SK: Yes, I guess. I've yet to meet a doctor that doesn't want to do the best for their patients. But I guess the reality is that we need the finance and the workforce to support that and sometimes it's a choice. I think FH; what can I say, I'm Clinical Lead for lipids, I'm going to say it's really important; it's something that we need to diagnose. We know that cardiovascular disease is the number one cause of death in deprived communities and accounts for significant rise in the number of deaths in the NHS and is going to continue to do so. It doesn't just cause death by MI of course; it causes death by heart failure ultimately, when you've had several MIs. So, if we can prevent that early, if we can diagnose it in children, if we can treat it effectively with safe therapy, with cheap safe therapy as well; statins in kids actually are easier to use than in adults – easier and safer – than in people with multiple comorbidities.

So, I actually think it's a complete no-brainer that this is something that we should and could be doing quite easily. There is a little bit of finance in the child-parent screening programme, perhaps that's another webinar and we will mention it in the coming webinar in July. But that does support practices financially to diagnose in babies.

Question 6

What is the full process for paediatric cases who have been found to have FH following genetic testing?

JB: I mentioned that, certainly in the Cheshire and Mersey area, we have Professor Blair at Alder Hey and on the Wirral as well, Dr Bowles looks after some of the paediatrics and also Dr Morrison in the Manchester area. So, they definitely should be looked after by a paediatric consultant and then there are what they call 'transition teams'; transition nurses to aid those children as they enter adulthood. Marie has already mentioned that children should be prescribed [medications] as soon as possible. In our experience, Professor Blair monitors the children and then she will transfer them to adult services; anything between 16-18 [years].

SK: I guess I'd just add that this is an evolving area and there's a lot to be worked out in terms of pathways and where roles and responsibilities will sit. In Cheshire and Mersey we've just written the lipid pathway which does cover all aspects of this – due to be reviewed by Cardiac Board in July – and then we can start to work on more detailed pathways. Of course, if we are diagnosing 1 in 250

people with FH and we've got a huge burden of children with FH that need assessment and treatment, it may not ultimately be possible to manage those all in tertiary care. So, we might need to think creatively about where those children are best looked after. I think in the first instance certainly, a specialist opinion; particularly with children with a high cholesterol or with high risk families. But I think it's an evolving area where pathways will develop and change over the coming years.

Question 7

What treatments should GPs initiate before referral for FH screening?

SK: The treatment for FH, actually, is the same as treatment for any other high cholesterol problems. So, if you are treating for primary prevention and secondary prevention – although the statin doses might be slightly different – you would still start with a high intensity statin and I would say that if you suspect someone has got FH with very high lipid levels, there's certainly no harm in initiating lipid therapies according to those algorithms for primary and secondary prevention whilst doing genetic testing at the same time. Indeed, you are almost doing a disservice to the patient if you don't.

Question 8

If a patient has biochemical parameters in keeping with FH but no genetic mutation is found, how should their lipids be managed, and could they still have FH?

MW: There is a possibility that they could still have FH. Genetics is moving forward all the time. I always say to my patients, we only know what we know at this point in time and there may be variants out there that we don't know about yet and there may be another variant that comes to light. Also, as Sue was saying, treatment for hypercholesterolemia doesn't change. It's statin therapy; if their levels are high enough and it poses a risk, then we should be treating their levels. I have long discussions with many patients who have low QRISK, generally because they are young, and I am not always led by QRISK scores. If people have got high levels of cholesterol – double what they should be – even with a negative diagnosis of FH, then we should be treating them with statin therapy and that's a conversation to be had with each patient. I do find some patients who've been referred from GPs do want to hold off statin therapy until they have a diagnosis of whether they have FH or not. But whether that one comes back negative or positive, there's a conversation still to be had about high cholesterol levels and the risk that that poses for them going forward.

SK: I'll just add to that, because in primary care we are trained to only initiate lipid therapies for primary prevention if somebody crosses that 10% threshold in QRISK. NICE have recently updated their CVD prevention guidelines to give us some leeway, to use your initiative and common sense. So, obviously if someone is scoring very low on QRISK simply because of their age, but have a strong family history of premature heart disease or other high-risk factors, with high lipid profile, then we should be considering treating, irrespective of their QRISK not crossing the 10% threshold.

Question 9

How long after giving birth should a patient wait before having their cholesterol levels checked?

JB: My understanding is around about eight weeks if things have been straightforward. However, if there has been any complications or caesarean section, it should be three months onwards because of the complicated and extended healing process. This is my understanding.

Question 10

What are the differences between the Dutch Lipid Score, Simon Broome and the Welsh Score and which should we use?

SK: So, the Cheshire and Mersey FH genetic testing service uses the Welsh Lipid Score which actually I really like and am quite a fan of, simply because you can do a genetic test calculation on people who are already on lipid therapies, which in primary care is often, or has been latterly with IIF searches has been most people with raised lipids. So, what do you do? Do you take them off lipid [therapies] to do Simon Broome and if you've not got a baseline before that, which you might not have if they've been on it for donkey's years for whatever reason. So, the Welsh Lipid Score, I think, is really easy to use in primary care. Some people would say that you should consider a combination of them, particularly if they are not scoring high as you would expect. So I guess you could use any or all. Marie and Jo might have their own opinion.

JB: I think it is difficult for clinicians who are very familiar with the Dutch Lipid [Score] or the Simon Broome and then a new service like our Cheshire and Mersey service comes along and we say, well actually we've decided we are going to use the Welsh Lipid [Score] And when we say that, that wasn't one individual decision; that was the operational board and the idea behind it is that it reduces the possibilities of testing people who actually don't have other high risks of FH, so you basically get a better yield. For instance, with the Welsh Lipid Score, many people who score below six, they will have one or even two percent chance of having that genetic variance. So, again it's partly so that we are not doing unnecessary testing on people. I suppose in an ideal world, if we had a never-ending budget, we'd routinely test everybody. But that's the idea of the Welsh Lipid Score; although it's similar but different to the traditional scoring criteria, it just gives us a better yield of the patients who are more likely to definitely have a variant.

MW: I tend to swap between the Dutch [Lipid Score] and the Welsh [Lipid Score]. The advantage of the Welsh [Lipid Score]; it takes into account age, it takes into account triglycerides, and you can also do a little calculation if they are already on statin therapy and you don't have a previous base LDL level. So it's handy from that point of view. But I do tend to go between the Welsh [Lipid Score] and the Dutch [Lipid Score]. I don't think there is anything wrong with using any of them in primary care. It's about picking up those possible cases and referring them for further assessment, is the key. If there's a possibility, then we should be thinking about it and whichever tool suits really.

Question 11

For people not diagnosed with, or previously assessed for FH, but who have premature CHD, how should their risk of having FH be assessed if they are already on lipid therapy and have no baseline lipid profile prior to their vascular event?

MW: So, we've got somebody who's secondary prevention who's already had a premature event. They're already on statin therapy, we don't have a previous blood result. I guess this is the question. If someone has had a premature cardiovascular event, there are calculations you can use, e.g. the Welsh [Lipid Score] criteria, to access what their LDL level may be, off therapy. But again, it's looking at everything in detail. It's looking at their levels, it's looking at the history and it's pooling all together alongside family history and then making a clinical decision on the basis of all the evidence that you have. But there are tools you can use to try to work out what their cholesterol may have been prior to whatever therapy they are taking at that time. So, it's about looking at the whole picture; it's not just assessing one part of that. But anybody who has premature heart disease and there's a possibility that there is high cholesterol, does warrant further investigation.