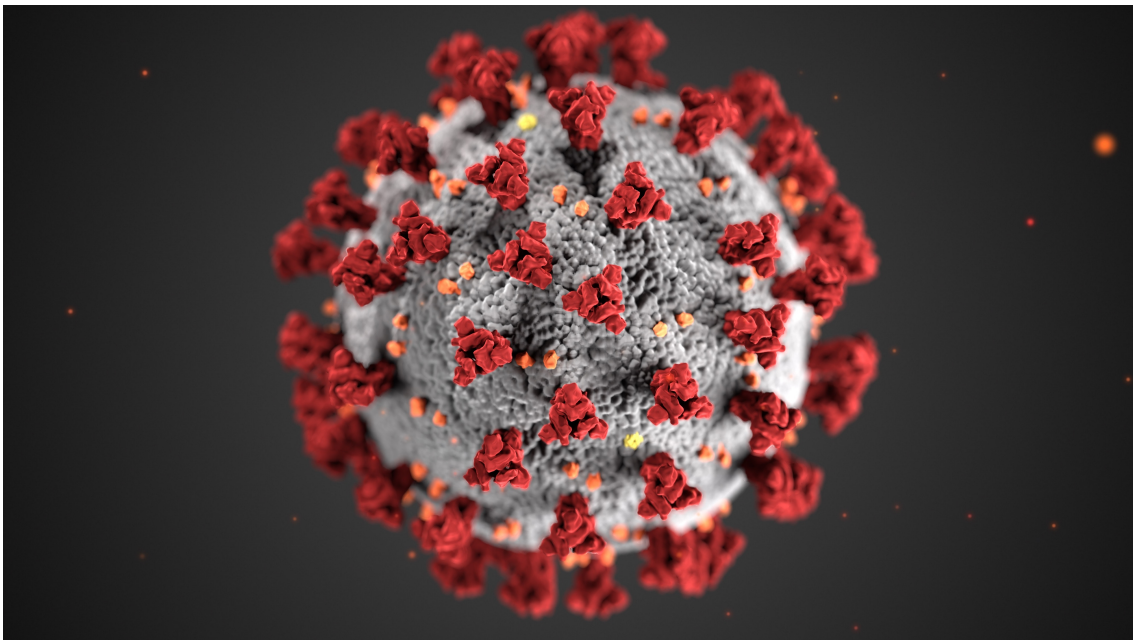
The National fH Registry

NEWSLETTER FOR THE NATIONAL FH REGISTRY

July 2021



Elevated Cholesterol in the Time of COVID

COVID-19 and heart disease are not happy bedfellows but they can become companionable.

As the pandemic rolls on, it is apparent that older people and those with comorbidities are more at risk than others. Those comorbidities include conditions related to long-term elevated cholesterol levels, such as previous

heart attack or previous stroke. These raise concerns around how best to approach living in a virus-infected world.

Let's tease out some common questions being asked by patients with high cholesterol.

Should I stop taking my medication?

All the current literature – including a May statement from a Heart UK expert panel – says there is no reason for people with high cholesterol to stop taking their medication. However, if you were to contract the virus, aspects of care and, in particular, attention to your drugs would need specific consideration.

The COVID virus affects the liver, altering the enzyme levels in the blood in more than 30% of patients. The significance for high cholesterol patients is that as statins, in particular, are metabolised (or cleared) by the liver, this process might be affected. Therefore, the current recommendation is to track the liver enzymes. Provided they are not greater than three times the upper limit of normal, there should not be a problem with continuing regular statin medication.

As a statin user, am I at potentially higher risk of COVID-19 infection?

The virus can attach to the angiotensin-converting enzyme receptor 2 (ACE2) protein, principally in the lungs, and statins can up-regulate that receptor to a small degree. ACE inhibitors, commonly used for high blood pressure control or treatment of cardiac failure, block the ACE receptors and up-regulate ACE2 receptors.

Observational studies have shown no adverse outcomes from continuing statin therapy. Patients may even gain benefits from the use of statins and ACE inhibitors as these appear to help stabilise the endothelium, the lining of the blood vessels.

People who have long-term elevated cholesterol, particularly if they haven't paid attention to taking their medications, are susceptible to endothelial dysfunction. Well, what does that mean? Essentially the endothelium (the lining of the blood vessel) acts like a 'Teflon' shield preventing the contents of the blood forming clots within the blood vessel. So, break-down in the protective lining of the blood vessel increases the risk of clot formation. Not good. As COVID-19 can also target the endothelium, these patients are at markedly increased risk of stroke or heart attack when exposed to the virus.

What happens if I contract COVID-19?

The interaction of the COVID therapy and that needed for lowering high cholesterol is the key for the medical team to consider should a person with high cholesterol become infected.

In the treatment of COVID-19,

- if the antiviral remdesivir is used, the statin used should be rosuvastatin;
- if the antiviral dexamethasone is used, the patient can continue any statin treatment, and
- ezetimibe appears to be very safe with most COVID-19 therapies.

Other safe therapies include the use of:

- fibrates, which lower triglycerides and are used mainly for diabetic or prediabetic patients, and
- PCSK9 inhibitors, injectable cholesterol-lowering agents, although the side-effects of a runny nose and a sore throat, which mimic a mild case of COVID-19, can cause some confusion

If the monoclonal antibody tocilizumab is used, all statin therapy should be stopped, as this agent affects two enzyme systems within the liver and reduces the likelihood of statins being “cleared” and so can build up in the body.

Which vaccine should I have?

Any vaccine, any medication, comes with risk. The question is, does the benefit outweigh the risk?

In Australia, we currently have the option of the AstraZeneca vaccine or the Pfizer vaccine.

AstraZeneca, which introduces a fragment of the actual virus into the body, has been linked with clot formation complications, especially in younger females. The event rate is about 1 in 80-90,000, which makes it less common than severe peanut allergy. Its death rate is 1 in 2,000,000 people. The rate of death from COVID-19 infection in the Austalian population is about 1 in 30. The benefit from the vaccine far outweighs the risk.

However, the unofficial recommendation for people with elevated cholesterol is to seek the Pfizer vaccination, which works through inserting ‘genetic code’ into the body’s own protein factory. Although there are no data to support this notion, cardiology and lipidology colleagues in Australia believe it is the better of the two because potential endothelial dysfunction in people with high

cholesterol could be exaggerated by the AstraZeneca vaccine.

How should I look after myself?

The pandemic has allowed us to re-evaluate our health and how best to manage our care. For example, a significant, recent development in the setting of elevated cholesterol is the availability of government-sponsored genetic testing for familial hypercholesterolaemia. This often undiagnosed, relatively common genetic disorder is associated with premature coronary heart disease, which means heart attack in young people. With early detection, we can use genetics to screen the family. We call this cascade testing. Finding the condition allows us to put in place the appropriate treatment so patient outcomes improve, re-establishing normal life expectancy in a condition notable for premature death.

This testing can be pursued in collaboration with your specialist, your GP and should also include your family.

Handling the pandemic

So, as you take everyday precautions, avoid large crowds, avoid non-essential travel and stay home if there is a community COVID-19 outbreak, also be faithful to taking your medications, get vaccinated as early as possible, Pfizer if possible, and explore if genetic testing for familial hypercholesterolaemia (FH) is the right thing for your family.

Dr Warrick Bishop
Cardiologist
www.drwarrickbishop.com

Recent General Practice Research in FH

Heart Journal has recently published the results paper from an Australia-wide, 15 general practice study into ‘Improving the detection and management of familial hypercholesterolaemia in Australian general practice.’ The study was part-funded by a National Health and Medical Research Council Partnership Grant with support from Departments of Health in both Western Australia and New South Wales plus research foundation and industry funding.

The paper is currently published online in Heart with Open Access and is accompanied by an editorial on its relevance to emerging research in the general practice area.

The study involved a pragmatic approach involving use of our data extraction tool – **TARB-Ex** – to identify patients at high-risk for FH from general practice electronic medical records followed by medical record review. Clinical assessment through GP consultation followed to confirm a phenotypic diagnosis of FH based on the Dutch Lipid Clinic Network Criteria score. We also examined the effectiveness of GP-managed care to reduce LDL-cholesterol levels and attain therapeutic targets.

Overall a total of 43 different partners contributed to the study. The initial planning stage of the study involved a community conversation that involved patients and families with known FH as well as interested members of the general public. A follow-up community conversation was undertaken after the study fieldwork had been completed. This examined potential next steps in tackling cascade testing among first- and second-degree relatives of the recently diagnosed index cases as well as providing invaluable feedback on approaches most likely to succeed and be acceptable to the general public.

Patients who consented to join the study were also invited to join the national FH Registry and the uptake was very pleasing. It is hoped that general practice diagnosis and management of FH will continue to develop and evolve and hopefully provide a rich source of real-world data for FH research in the future.

It is recognised that increased awareness of FH as well as better infrastructure will be needed in general practice to facilitate improved diagnosis and management of the condition. It is also recognised that improved integration of general practice with specialist services will also be needed to optimise the potential of general practice as a useful additional source of FH screening and management in the future.

Professor Tom Brett
Primary Health Care and General Practice
University of Notre Dame

everyone deserves
a better chance

Our mailing address is:
FHWA
Level 4, Medical Research Foundation Building
Rear 50 Murray Street
PERTH WA 6000

Why did you receive this email?
When you signed up for the National FH Registry you ticked the box for information.

Don't want to receive emails in the future?
You can unsubscribe by emailing fhwa@health.wa.gov.au with UNSUBSCRIBE in the subject line.