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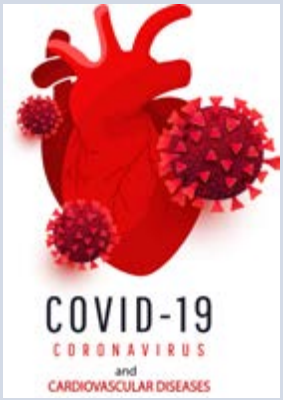
COVID-19 and cardiovascular disease

Dr Tony Dalby, Cardiologist, Life Fourways Hospital, Johannesburg, answers your questions

Dr Tony Dalby
Cardiologist, Life Fourways Hospital, Johannesburg

Click here – you need to watch the video in order to complete the CPD questionnaire.



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Introduction

COVID-19 is a new viral disease which has affected humans only in the last five months. Therefore, many of the proposed prophylactic measures and treatments have not been trialled to prove their safety and effectiveness. Measures that have been recommended often originate from unreliable sources and have drawn conclusions from associations between a specific treatment and the outcome of the disease. It is a basic tenet that association does not prove causation. The present state of our knowledge is that there is no known prophylactic therapy nor is there effective antiviral treatment for COVID-19.

LEARNING OBJECTIVES

You will learn:

- Current understanding of the associated risks of COVID-19 infection in the cardiovascular disease patient
- That ACE inhibition has been associated with a lower risk of dying in patients infected with COVID-19
- Cardiac ischaemia and infarction may well be precipitated by the intense inflammatory response and activation of thrombosis that occurs in severely ill patients with COVID-19.

What is the frequency of COVID-19 patients going into congestive cardiac failure (CCF) if not treated with an antihypertensive agent?

The frequency of COVID-19 infected patients developing heart failure if not treated with an antihypertensive is not known. The survival of patients with COVID-19 on treatment with a RAAS inhibitor is better than those not treated.

If a COVID-19 positive patient is not coughing and is practising regular hand-washing, and the people they are living with are also taking precautions such as regular handwashing and social distancing etc., is it possible to spread the infection?

Secondly, what are good multivitamins that can be taken to prevent COVID-19 virus?

Lastly, how unlikely is it to contract the virus if you are taking a multi-vitamin daily?

Part one: There are reports that transmission of the COVID-19 virus is greatest in the two days prior to the development of symptoms. Thus, it is possible for a person to spread the infection even though he/she is asymptomatic.

Part two and three: Multivitamin therapy is not expected to have any effect in preventing COVID-19.

Experience in patients dying of COVID-19 in New York has found that ACE inhibition was associated with a lower risk of dying

Why only the choice of newly diagnosed cardiac or hypertensive disease patients for an alternative treatment and not the ones already on ACE inhibitor or ARB treatment? Is the association between COVID-19 and ACE-2 receptors not going to increase the risk to develop the disease in patients already on ACE inhibitors?

I believe the issue of choosing a non-RAAS inhibitor in newly diagnosed hypertensive and cardiac patients was the opinion of an American advisory group very early in the controversy surrounding the ACE-2 receptor. This consideration is no longer relevant. ACE inhibition is safe COVID-19 patients. Experience in patients dying of COVID-19 in New York has found that ACE inhibition was associated with a lower risk of dying.

Can COVID-19 infected patients present with angina only?

The commonest presentations of COVID-19 are fever, cough and pneumonia. While pneumonia may well be associated with chest pain, primary presentation with typical ischaemic chest pain is unlikely. Cardiac ischaemia and infarction may well be precipitated by the intense inflammatory response and activation of thrombosis that occurs in severely ill patients with COVID-19.

I am a 70-year-old retired medical doctor, with moderate hypertension and atrial fibrillation for which I had cardioversion twice. I am currently well controlled for both the HPT and AF. I would appreciate your opinion about me going back to work in hospitals during the COVID-19 pandemic.

The risk factors for acquiring COVID-19 infection and developing severe disease include hypertension, heart disease and advancing age. Although from your question you appear to be a healthy individual, this will not entirely mitigate your risk. I would not advise placing yourself in the front line in the first instance.

As scary as coronavirus is, what is the effect of coronavirus in CCF, HIV myelopathies?

Given that COVID-19 is a new disease, not enough is known at this time to state what the exact effects would be in heart failure, retroviral disease and/or myelopathy. We should anticipate worse outcomes in patients with comorbidities such as heart failure and compromised immune systems.

I have a 41-year-old male patient. Known hypertensive for more than 10 years. Diagnosed & secondary causes excluded by a physician initially. Currently well controlled. He is fit, healthy & has no other co-morbid risk factors. Is he still at increased risk with COVID-19 infection or is there insufficient data? He is extremely concerned about his risk.

The current data is indeed insufficient to accurately determine the risk of COVID-19 in your 41-year-old patient. Caution dictates that, as he does have hypertension, he may be at increased risk whether or not his blood pressure is controlled.

Is there a case for giving prevenar to people over the age of 50?

Although prevenar (vaccination against pneumonia) will not protect against COVID-19, it is recommended along with the annual flu vaccine to forestall additional infections complicating or masquerading as COVID-19.

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