PreCardix Bioactive Marine Peptide Tablets Significantly Lower Blood Pressure in a 67-year-old male: A Case Report

Author: Dr. Sharon Kelly *BSc (Hon.), N.D., IFMCP*
Board Certified Naturopathic Doctor
Certified Functional Medicine Practitioner

Co-Author: Dr. Kelly Clinning *BSc (Hon.), N.D.*
Licensed Naturopathic Doctor

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Abstract

PreCardix® Bioactive Marine Peptide tablets are a clinically proven natural alternative to lower elevated blood pressure and thus prevent hypertension. PreCardix is composed of unique bioactive marine peptides derived from the shell of *Pandalus borealis* shrimp, specifically isolated for their ACEI action and proven in clinical trials to safely and significantly lower elevated systolic blood pressure.

This case explores the blood pressure lowering effect of PreCardix Bioactive Marine Peptides in a hypertensive 67-year-old male with a family history of hypertension and stroke. The patient presented with no personal history of stroke or MI and had never been medicated for hypertension before. He was a non-smoker, non-diabetic, moderate drinker, and had a sodium intake within healthy limits. Despite a healthy lifestyle, the patient's blood pressure at initial presentation was 142/76 mmHg. PreCardix Bioactive Marine Peptide Tablets were introduced at a dose of 1,200 mg daily to lower the patient's blood pressure as an alternative to medication. Within one week, the patient's blood pressure was reduced from 142/76 mmHg to 126/69 mmHg representing an 11% drop in systolic pressure and a 9% drop in diastolic pressure. The patient's blood pressure was tracked for an additional 5 weeks following the original introduction of PreCardix and a consistent reduction in blood pressure was maintained. No side effects were noted and the patient found the treatment easy and effective.

This case demonstrates that PreCardix may be an effective way to lower blood pressure for patients with elevated blood pressure.

Introduction

Statistics Canada reported that from 2012-2015, 1 in 4 Canadian adults suffered from hypertension despite having some of the highest hypertension awareness, treatment and control rates in the world[1]. Hypertension is estimated to cause up to 50% of cardiovascular disease cases and is the leading risk factor for mortality[2]. In addition to the health implications, hypertension and it's associated health sequelae account for a significant proportion of Health Canada's yearly spending estimated at 10.2% of the total Canadian Healthcare budget and expected to grow higher with time[3].

According to Hypertension Canada, current treatment for hypertension includes lifestyle intervention followed by medication if improvement is not seen within one month[4]. For non-diabetic patients considered at moderate to high risk for a cardiovascular event, Hypertension Canada recommends a target blood pressure of below 140/90 mmHg and medicating if above this value[4]. There is evidence from the SPRINT trial that targeting lower systolic blood pressure levels closer to 120 mmHg is associated with lower rates of fatal and non-fatal major cardiovascular events[5].

Experts suggest starting antihypertensive medication at the lowest effective dose and increasing until target blood pressure has been met[6]. Frequently, multiple antihypertensive pharmaceuticals are used at lower doses and in combination to reach blood pressure targets and avoid side effects[6]. The most commonly used antihypertensive medication in Canadian men

are angiotensin-converting enzyme inhibitors (ACEI), followed by beta blockers[6]. It is estimated that between 5-20% of patients on an ACEI experience a chronic dry cough and it is unknown how many patients withdraw from ACEI therapy as a result[6]. Other side effects associated with ACEI include fatigue, hyperkalemia, loss of taste and rash.

Considering the high rates of hypertension in the Canadian population, the strong association between hypertension and cardiovascular outcomes and mortality, and the high incidence of side effects associated with ACEI medication, safe and effective alternatives for treating hypertension are of interest.

We present a case of PreCardix Bioactive Marine Peptide tablets leading to a significant reduction in blood pressure in a male with mild to moderate hypertension with no reported side effects.

Case Presentation

A 67-year-old male presented to his naturopathic physician with an initial blood pressure reading of 142/76 mmHg. This blood pressure measurement was taken in office by the naturopathic physician with a Welch Allyn Tycos® Classic Hand and Pocket Aneroid Sphygmomanometer. The measurement was taken after the patient had rested for more than 5 minutes on the left arm and while the patient was seated. The reported blood pressure was an average of 2 measurements taken consecutively.

The patient was otherwise healthy with no previous diagnosis other than hemochromatosis, which was managed with regular blood donation. His ferritin levels at the time of initial presentation were 73ug/L and he had no signs of liver damage according to his blood work and an ultrasound. The patients blood work revealed normal blood sugar with a HbA1c of 5.3 %, total cholesterol of 5.3 mmol/L, LDL 2.75 mmol/L, and HDL 1.22 mmol/L. Kidney and liver function tests were both within normal limits.

The patient had no personal history of stroke or MI but had a family history of cardiovascular disease. His father died of a stroke in his sixties and four of his siblings had hypertension. The patient had never been medicated for hypertension in the past and did not take any over the counter or prescription drugs on a regular basis. He had been taking 1000 IU of Vitamin D^3 and 2000 mg of EPA/DHA Omega 3 fatty acids consistently for three years. The patient reported having a very active lifestyle. He did not have a formal exercise program, but had an active job and walked 15,000-20,000 steps per day. He ate a whole food based, low salt (<2000mg of sodium) diet and slept 7-8 hours a night. He reported moderate levels of stress, was a non-smoker and drank 2-4 alcoholic drinks per week. His weight at initial presentation was 194 lbs., height 5'2", and BMI was 35.5. He had a very muscular build along with some abdominal adiposity.

The patient was prescribed two tablets, each containing 600 mg of PreCardix Bioactive Marine Peptides, once daily for a total of 6 weeks. The tablets were taken daily before noon, with water and away from food. The patient was requested to monitor and record his blood pressure 2-3 times a week for the 6-week intervention period and report the average blood pressure for each week to the naturopathic physician.

The patient reported the following results based on weekly at home blood pressure readings taken with the Omron Blood Pressure Monitor BP769Can device. All measurements were taken after resting for at least 5 minutes, while sitting and on the left upper arm. After 1 week of treatment, the patient's blood pressure dropped to 126/69 mmHg. This significant reduction in blood pressure level was maintained for the remaining 5 weeks of the intervention. At the end of the 6-week trial period the patient's blood pressure was 125/68 mmHg. The patient reported no interruptions or modifications to the 1,200mg daily dose. No other medical or diet and lifestyle interventions were prescribed during the treatment period.

PreCardix was well tolerated by the patient and no side effects were noted.

Relevant Past Medical History and Intervention		
A 67-year-old male presents to his naturopathic physician with a blood pressure reading of 142/76 mmHg. No pharmaceutical interventions had been implemented to date. The patient had no personal history of stroke or MI but had a positive family history of cardiovascular disease. 1,200mg of Precardix Bioactive Marine Peptides was prescribed to be taken daily, before noon, with water, and away for food for the following 6 weeks.		
Timeline	**Outcome**	**Intervention**
Baseline	Blood pressure at initial presentation: 142/76 mmHg	-
Week 1	Blood pressure reduced to: 126/69 mmHg	1,200 mg Precardix
Week 2	Average blood pressure: 128/71 mmHg	1,200 mg Precardix
Week 3	Average blood pressure: 124/68 mmHg	1,200 mg Precardix
Week 4	Average blood pressure: 126/67 mmHg	1,200 mg Precardix
Week 5	Average blood pressure: 125/68 mmHg	1,200 mg Precardix
Week 6	Average blood pressure: 125/68 mmHg	1,200 mg Precardix

Figure 1: Timeline

Discussion

Considering the high prevalence of hypertension in the adult Canadian population, it's strong association with cardiovascular disease and mortality, and the high side effect profile of the first line hypertension pharmaceuticals; there is a need for alternative treatment options.

Despite this need, very few products containing meat or fish-derived bioactive peptides are currently available for commercial use despite their availability and efficacy[7]. Bioactive peptides are meat or fish-derived proteins varying from 2-20 amino acids in length[8]. They are absorbed through the intestine into the circulatory system where they can exert a broad range of physiological effects[8]. Some of the identified physiological effects to date include antioxidant, antimicrobial, antiproliferative, and antihypertensive[8].

The antihypertensive effect of certain bioactive peptides is attributed to their ACE inhibitor action. Synthetic ACE inhibitors, such as Captopril, function by blocking the action of angiotensin converting enzyme and preventing the formation of the potent vasoconstrictor, angiotensin II, leading to a relaxation of the blood vessels and a lowering of blood pressure[8]. It has been proposed that specifically isolated bioactive peptides work similarly and interact with the Angiotensin Converting Enzyme making it unavailable to produce angiotensin II [8]. Although synthetic ACEI's are effective for the treatment of hypertension, various side effects such as chronic cough, skin rash, hyperkalemia, loss of taste and fatigue lead some patients to discontinue treatment prematurely.

PreCardix Bioactive Marine Peptide Tablets are a clinically proven and peer reviewed natural alternative to lower elevated blood pressure. PreCardix is composed of isolated bioactive marine peptides derived from the shell of *Pandalus borealis* shrimp, a 100% natural and sustainable source. These peptides have been specifically isolated for their ACEI action and backed by 10 years of scientific research and clinical trials. Research to date has found the effective dose is 1,200 mg a day and no safety concerns or side effects have been identified. In 2018, PreCardix was approved by Health Canada and given the NPN: 80080580.

We present a case of a 67-year-old male with mild to moderate hypertension and a family history of hypertension and stroke. The patient's initial blood pressure of 142/76 mmHg reduced by 11% systolic and 9% diastolic within one week of introducing 1,200 mg of PreCardix Marine Peptide tablets daily. This significant reduction in blood pressure was maintained consistently for the remaining trial intervention and at the end of the 6-week trial was reported as 125/68mm Hg.

The findings in the presented case study are consistent with a peer-reviewed study documenting PreCardix Bioactive Marine Peptide Tablet results, which was published in the International Journal of Hypertension in 2019[9]. This study was of a multi-center randomized, double blind and placebo controlled design. It found a statistically significant 4.8 mmHg reduction in daytime ambulatory systolic blood pressure compared to placebo at 8 weeks[9]. The study had a strong safety profile with no significant changes in hematology or urine chemistry from beginning to end of the trial[9]. Additional reported patient data also finds consistent reductions in systolic blood pressure and is noted in PreCardix Summary Case Studies at www.precardix.com.

In conclusion, 1,200 mg of PreCardix Bioactive Marine Peptide Tablets had a significant blood pressure lowering effect consistent with existing peer reviewed clinical documentation, extensive patient data and general scientific consensus.

Patient Perspective

The patient reported no negative side effects during the 6-week trial intervention and noted that he found the treatment "easy and surprisingly effective".

Informed Consent

It has been ensured that the patient understands the following with respect to this intervention; the nature of the intervention, its expected benefits, the material risks and side effects, available reasonable treatment alternatives, the likely consequences of not receiving the intervention, any associated costs, and the right to withdraw consent at any time without penalty.

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