

Preventing Aortic Dissection: Strategies for a Healthier Heart

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Introduction

Aortic dissection, though relatively rare, is a severe and potentially life-threatening cardiovascular condition. It occurs when the inner layer of the aorta—the large blood vessel branching off the heart—tears, allowing blood to flow between the layers of the aortic wall. This can lead to a range of complications, including organ damage, stroke, and even death if not promptly treated. While some risk factors for aortic dissection are beyond our control, there are several strategies individuals can adopt to reduce their risk and promote a healthier heart. Before delving into prevention strategies, it's crucial to grasp the factors that contribute to aortic dissection [1]. Hypertension (high blood pressure) is the leading cause, as it puts undue strain on the walls of the aorta, making them more susceptible to tearing [2]. Other risk factors include smoking, atherosclerosis (hardening of the arteries), genetic conditions such as Marfan syndrome or Ehlers-Danlos syndrome, and a history of heart surgery or injury. Manage Blood Keeping blood pressure within a healthy range is paramount for preventing aortic dissection. This can be achieved through lifestyle modifications such as maintaining a balanced diet low in sodium, engaging in regular physical activity, limiting alcohol consumption, and managing stress. In some cases, medication may be necessary to control hypertension effectively. Smoking not only raises blood pressure but also contributes to the development of atherosclerosis, further increasing the risk of aortic dissection. Quitting smoking is one of the most impactful steps individuals can take to protect their heart health. Support from healthcare professionals, smoking cessation programs, and nicotine replacement therapies can aid in this process [3].

A diet rich in fruits, vegetables, whole grains, lean proteins, and healthy fats can help prevent aortic dissection by promoting overall cardiovascular health. Minimizing the intake of processed foods, saturated fats, and sugary beverages is essential. Additionally, incorporating foods high in potassium, such as bananas, spinach, and sweet potatoes, can help regulate blood pressure. Regular exercise is crucial for maintaining a healthy heart and reducing the risk of cardiovascular diseases, including aortic dissection. Aim for at least 150 minutes of moderate-intensity aerobic activity or 75 minutes of vigorous-intensity activity each week, supplemented with muscle-strengthening exercises on two or more days.

Description

Consult with a healthcare provider before starting any exercise regimen, especially if you have existing health concerns. Chronic stress can elevate blood pressure and contribute to the development of heart disease. Practicing stress-reduction techniques such as mindfulness meditation, deep breathing exercises, yoga, or spending time in nature can help alleviate stress and promote relaxation. It's also important to prioritize adequate sleep, as sleep

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Received: 27 January, 2024, Manuscript No. jodd-24-132563; **Editor assigned:** 29 January, 2024, PreQC No. P-132563; **Reviewed:** 12 February, 2024, QC No. Q-132563; **Revised:** 17 February, 2024, Manuscript No. R-132563; **Published:** 24 February, 2024, DOI: 10.37421/2329-9517.2024.12.588

deprivation can negatively impact heart health. Routine medical examinations allow healthcare providers to monitor blood pressure, cholesterol levels, and overall cardiovascular health. Detecting and managing risk factors early can help prevent the onset of aortic dissection and other heart-related complications. Individuals with a family history of connective tissue disorders or aortic dissection may have an increased risk themselves. Understanding your genetic predisposition can empower you to take proactive measures to safeguard your heart health, including regular screenings and lifestyle modifications.

Preventing aortic dissection requires a multifaceted approach that encompasses lifestyle modifications, regular medical screenings, and awareness of personal risk factors. By adopting heart-healthy habits such as managing blood pressure, quitting smoking, maintaining a balanced diet, staying active, managing stress, attending regular check-ups, and understanding family history, individuals can significantly reduce their risk of experiencing this potentially life-threatening condition. Prioritizing heart health not only enhances longevity but also improves overall quality of life. Excessive alcohol intake can elevate blood pressure and weaken the aortic wall, increasing the risk of dissection [4]. Moderate alcohol consumption—defined as up to one drink per day for women and up to two drinks per day for men—may be acceptable for some individuals. However, it's essential to consult with a healthcare provider to determine what level of alcohol consumption is safe for you, especially if you have existing cardiovascular risk factors. High levels of LDL cholesterol, often referred to as "bad" cholesterol, can contribute to the buildup of plaque in the arteries, including the aorta, leading to atherosclerosis and increasing the risk of aortic dissection. To maintain healthy cholesterol levels, focus on consuming a diet low in saturated and trans fats, engage in regular physical activity, and, if necessary, take prescribed medications such as statins to help lower cholesterol levels. Certain stimulants, such as cocaine and amphetamines, can significantly increase blood pressure and heart rate, putting strain on the aortic wall and increasing the risk of dissection. It's crucial to avoid the use of these substances altogether to protect heart health.

Seek Prompt Medical Attention: If you experience sudden, severe chest or back pain, particularly if it is described as tearing or ripping, seek immediate medical attention. Aortic dissection is a medical emergency that requires prompt diagnosis and treatment [5].

Conclusion

Delaying medical care can significantly worsen outcomes and increase the risk of complications. If you have underlying health conditions such as hypertension, diabetes, or atherosclerosis, adhere to your healthcare provider's treatment plan diligently. This may involve taking prescribed medications, making lifestyle modifications, attending regular follow-up appointments, and undergoing necessary procedures or surgeries to manage your condition effectively. Knowledge is a powerful tool in preventing aortic dissection. Take the time to educate yourself about the condition, its risk factors, and warning signs. Being informed empowers you to make proactive decisions about your health and seek appropriate medical care when needed. Surround yourself with a supportive network of family, friends, and healthcare professionals who can provide encouragement, guidance, and assistance in maintaining heart-healthy habits. Having a strong support system can make it easier to adhere to lifestyle changes and navigate any challenges that arise along the way. By incorporating these additional strategies into your heart health regimen, you can further reduce your risk of experiencing aortic dissection and other cardiovascular complications. Remember that prevention is key, and prioritizing your heart health today can lead to a healthier and happier tomorrow.

Acknowledgement

None.

Conflict of Interest

None.

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How to cite this article: Sonja, Poulouse. "Preventing Aortic Dissection: Strategies for a Healthier Heart." *J Cardiovasc Dis Diagn* 12 (2024): 588.