

Early Detection and Implications of Degenerative Aortic Stenosis Heart Valvular Disease

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Received: March 10, 2017; Accepted: March 29, 2017; Published: March 31, 2017

Introduction

Degenerative aortic stenosis heart valvular disease [1] accounts for numerous surgical procedures as it is quite prevalent in USA with numerous patients suffering from degenerative valve disorders. In terms of therapeutic interventions and early detection of valvular heart disease [2], it is crucial for us to find an imperative provision for such form of cardiovascular disease caused due to degenerative calcification of a tri-leaflet valve or advancing stenosis of congenital bicuspid valve. Aortic stenosis valvular heart disease [3] is related to congested heart failure along with other complications. Early detection of Aortic stenosis valvular heart disease [4] can play a crucial role in terms of reducing the severity of the valve diseases through comprehensive echocardiographic [5] evaluation of all valves along with aorta. It should examine the indices of left ventricular enlargement [6] along with pulmonary pressures and ventricular function of right ventricle. Cardiac Magnetic Resonance is also useful in terms of accessing ventricular volumes, valvular lesions [7] and systolic functions in order to assess any associated valve diseases.

Early detection of aortic stenosis heart valvular disease [8] can reduce the risk of congestive heart failure, congenital heart septal defects along with tricuspid regurgitation. It can effectively improve the long-term survival of patients through valve repair or valve replacement of severe symptomatic aortic stenosis [9] patients. Less invasive treatment options like trans-catheter aortic valve replacement can reduce the potential risk for patients aged over 65 years such as left ventricular dysfunction [10] and other chronic diseases associated with age. The onset of the symptoms can be sudden and the severity of the aortic stenosis heart valve disease doesn't correlate with the manifestation of the symptoms. Patients suffering from aortic stenosis [11] due to congenital defect specially infants and children can exhibit symptoms like breathlessness, fatigue upon exertion and decreased normal activities. Though, patients suffering congenital aortic stenosis does not always exhibit noticeable symptoms as the amount of blood flow from the left ventricle through the valve is restricted which eventually effects the pressure of the left atrium.

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Citation: Philip A, Debjyoti T, Annasaheb P, et al. Early Detection and Implications of Degenerative Aortic Stenosis Heart Valvular Disease. Insights Biomed. 2017, 2:1.

Conclusion

Though, there are various surgical options associated with aortic valve replacement such as TAVI (Trans-catheter Aortic Valve Replacement) and TAVR (Trans-catheter Aortic Valve Implantation) [12] procedures along with Ross procedure are the ones which effectively treat damaged aortic valve and ensures long term wellness. The procedure involves swapping aortic valve with healthy pulmonary valve while the missing pulmonary valve is replaced with a donor valve. Non-invasive imaging techniques [13] like Doppler Echocardiography and Cardiac Magnetic Resonance (CMR) along with mainstay echocardiography can play a crucial role in terms of accessing pathophysiology and early detection of major valvular heart diseases like aortic stenosis. Furthermore, early detection can reduce the risk of implications by laying the concept of risk stratification and optimizes the timing for surgery associated with degenerative aortic stenosis heart valvular disease.

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