A living aortic valve replacement leads to better survival and quality of life than provided by a dead donor

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When a patient needs their aortic valve replacing, using the valve in their own pulmonary artery for the replacement leads to better survival and quality of life than if the aortic valve from a dead donor is used. This is the conclusion of an Article published Online First and in an upcoming edition of The *Lancet*, written by Professor Sir Magdi Yacoub, Royal Brompton and Harefield NHS Foundation Trust, London, UK, and Imperial College London, UK, and colleagues.

The aortic valve is one of the two valves of the heart, the other being the pulmonary valve. The aortic valve connects the left ventricle of the heart to the body's main artery, the aorta. Aortic valve replacement has been shown to improve the natural history of patients with severe symptomatic aortic valve disease. With the increase in the global population and improved access to health care, the number of aortic valve surgeries worldwide is estimated to triple within the next 30 years. So far, surgery remains the only effective solution for improvement of the natural history of the disease; however, survival after surgery is often worse than in the general population.

The ideal substitute for aortic valve replacement in patients with aortic valve disease is not known. Valve replacements can be tissue-based, or mechanical. Some three quarters of all replacement valves are tissue-based, but mechanical valves remain popular in some centres. For tissue-based valves, the authors hypothesised that the regulatory and adaptive

properties of a living valve substitute (autograft) could improve the long-term outcomes in patients more than those of a valve harvested from a dead donor patient (homograft). In this study, these two options were compared.

Male and female patients (