A machine Learning approach to understanding the importance of echo strain measurements in cardiac outcomes research

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ABSTRACT

INTRODUCTION

Cardiovascular diseases are highly prevalent and a leading cause of death worldwide. In clinics, the metric, Left-ventricular ejection fraction (LVEF: percentage of blood that is ejected from the left ventricle during each heart beat) is widely used to quantify cardiac function. LVEF can be measured non-invasively using imaging methods such as echocardiography and magnetic resonance imaging (MRI). Manar et.al have shown that LVEF when used with clinical measurements and echocardiography based measurements such as Tricuspid regurgitation etc, can significantly improve prediction of mortality rates for patients. Experts recognize that LVEF is a measure of convenience, thus more advanced metrics of cardiac function need to be studied.

One such alternative metric of cardiac function is strain. Strain measurements are more sensitive to changes in cardiac function as compared to LVEF.

METHODS

RESULTS

CONCLUSIONS