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CARDIAC MORPHOLOGY, LEFT AND RIGHT VENTRICULAR FUNCTION ANALYSIS IN HEALTHY CHINESE INDIVIDUALS USING MRILu Minjie, Zhao Shihua, Ying Gang, Jiang Shiliang *Fuwai Hospital, Beijing, China*

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Objective To investigate reproducibility and establish means for cardiac parameters in a selected normal Chinese Han population using cardiac MRI.

Methods Two hundred and sixty-nine normal volunteers underwent cardiac MRI investigation using a 1.5 T MR system. HASTE and steady state free precession imaging was performed with long and short axis cine images through the ventricle obtained. All images were acquired with wireless vector cardiac gating. Two independent observers then analysed the data set. Data were collected for assessment of dimensions of cardiac chambers and function parameters of both ventricle including EF, EDV, ESV and myocardial mass. Results are presented as mean±SD. The data between the sexes were compared by using two-tailed unpaired t tests, $p < 0.05$ was considered to be significant.

Results Total imaging time was (15±3) min. All patients were able to complete the full protocol. The main parameters of the heart chamber were: anteroposterior diameter of left atrium (2.87±0.77) cm, right atrial diameter (perpendicular to the atrial septum) (3.61±0.57) cm, end diastolic diameter of left ventricle (4.97±0.52) cm, end diastolic diameter of right ventricle 2.65±0.48 cm. Left ventricular parameters: ejection fraction (EF) (60.62±7.08)%, end diastolic volume (EDV, 115.37±26.71) ml, end systolic volume (ESV, 46.02±15.72) ml and LV mass (82.97±24.03) g. Right ventricular parameters: EF (47.73±6.50)%, EDV 128.27±32.16 ml, ESV 67.7±21.07 ml and RV mass (48.24±13.42) g. There were no statistically significant difference in LVESV ($p=0.144$), LVEDV index ($p=0.714$), LVESV index ($p=0.113$), LVCI ($p=0.199$), RVEF ($p=0.296$) and RV mass ($p=0.093$), and there were statistically significant difference in other cardiac parameters between males and females.

Conclusions Cardiac MRI provides high quality information about cardiac function with a high level of reproducibility. Cardiac MRI parameters in a normal Chinese Han population are provided.