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THE SAFETY AND EFFICACY OF DUAL AXIS ROTATIONAL ANGIOGRAPHY IN THE DIAGNOSIS OF CORONARY ARTERY DISEASE IN THE CHINESE POPULATION

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Objective To assess the clinical safety and efficacy of dual-axis rotational coronary angiography (XperSwing) in the diagnosis of coronary artery disease in the Chinese population by directly comparing it to standard coronary angiography.

Methods From March to July in 2010, 129 patients undergoing diagnostic coronary angiography were randomised to either standard angiography group (n=64) or XperSwing group (n=65). Contrast utilisation, radiation exposure and procedure time were recorded in the two groups. In a further 82 patients (standard angiography group: n=39, XperSwing group: n=43), blood pressure (BP), heart rate (HR) and symptoms were recorded immediately before-and-after injections. The number of additional acquisitions needed to be performed was used to evaluate and compare the efficacy of two methods.

Results Both two groups successfully completed angiography and no difference was found in the need for additional acquisitions between the two groups (p>0.05). There was a 44% reduction in contrast utilisation in the XperSwing group compared to the standard group (29.28±5.06 ml vs 52.02±12.05 ml, p<0.001), and 50% reduction in radiation exposure (11 383.60±4114.52 mGycm2 vs 22 755.97±11 239.22 mGycm2, p<0.001). There was no difference in procedure time needed to complete angiography in the two groups (p>0.05). Neither

the occurrence of arrhythmia nor chest pain had difference between two groups during angiography, the same as BP and HR changes immediately before-and-after injections (p>0.05).
Conclusions This study demonstrates the clinical safety and efficacy of perswing in the diagnosis of coronary artery disease in the Chinese population for the first time. Moreover, it can significantly reduce the contrast utilisation and radiation exposure for the patients, and replace the conventional coronary angiography, however, additional studies will be needed in a larger number of sample patients.