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VARIATION OF P-WAVE DISPERSION BEFORE AND AFTER TRANSCATHETER CLOSURE IN PATIENTS WITH ATRIAL SEPTAL ANEURYSM

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Objectives To investigate the variation of P-wave dispersion (P_d) before and after transcatheter closure in patients with atrial septal aneurysm (ASA).

Methods 152 patients with ASA (65 males and 87 females, average age 29.6 ± 16.3 years, range 10–67 years old) were selected by the clinical, ECG, x-ray, transthoracic echocardiography (TEE) examination from January 2003 to April 2010 in our hospital. ASAs were diagnosed by TEE based on the criteria of a minimal aneurysmal base of ≥ 15 mm; and an excursion of ≥ 10 mm. The mean diameter of ASA measured by TTE was (21.5 ± 7.9) mm (ranged from 5 to 32 mm). There were single-hole type in 143 cases and porous type in 9 cases. P-wave maximum time limit (P_{max}) and P_d were calculated from the 12-lead electrocardiogram. All subjects were followed up for 12 months.

Results 152 patients were occluded successfully and the mean diameter of amplatzer occluder was (21.4 ± 6.6) mm (ranged from 14 to 36 mm). 9 cases with porous type were selected just one occluder. The mean P_d in patients with ASA 1 year after transcatheter closure was significantly shorter compared to that before transcatheter closure (54.9 ± 8.4 vs 39.1 ± 5.6 ms; $p < 0.05$). Similarly, the mean P_{max} 1 year after transcatheter closure was significantly shorter compared to that before transcatheter closure (110.2 ± 15.7 vs 95.3 ± 11.9 ms; $p < 0.05$). No serious complication was found such as residual shunt, haemolysis and occluder loss.

Conclusions Transcatheter closure treatment in patients with atrial septal aneurysm may shorten the atrial conduction time and promote the stability of atrial electrical activity by reshaping the heart.