

中文題目：陣發性心房顫動患者接受肺靜脈隔離術後皮膚交感神經活性的變化

英文題目：Alteration of skin sympathetic nerve activity after pulmonary vein

isolation in patients with paroxysmal atrial fibrillation

作者：宋偉廷¹、羅力璋^{1 2 3}、林彥璋^{1 2 3}、張世霖^{1 2 3}、胡瑜峰^{1 2 3}、
鐘法博^{1 2 3}、廖若男^{1 2 3}、段大全^{1 2 3}、趙子凡^{1 2 3}、林晉宇^{1 2 3}、張琹詠^{1 2 3}、
郭冷^{1 2 3}、劉至民^{1 2 3}、劉馨慧^{1 2 3}、鄭文涵^{1 2}、陳適安^{1 2 3 4}

服務單位：¹台北榮民總醫院內科部、²台北榮民總醫院內科部心臟科、³國立陽明交通大學、⁴台中榮民總醫院

Background: Autonomic system plays a pivotal role in the pathogenesis of paroxysmal atrial fibrillation. Skin sympathetic nerve activity (SKNA) is a non-invasive tool to assess sympathetic tone. However, the data for change of SKNA after ablation was limited.

Methods: 37 patients with symptomatic drug refractory paroxysmal AF who underwent pulmonary vein isolation (PVI) with radiofrequency ablation (RFA) or cryoablation (CBA) were enrolled. Noninvasive SKNA was measured via BIOPAC MP 36 system from chest and right arm 1 day prior to ablation, 1 day, and 3 months after ablation. The percentage of changes in SKNA was investigated.

Results: One day after ablation, the mean SKNA-Arm increased from 653.1 ± 415.1 μV to 1704.6 ± 1591.4 μV , with an increase of $316.2\% \pm 348.2\%$ ($p < 0.001$); the mean SKNA-Chest increased from 685.1 ± 565.4 μV to 1089.2 ± 1579.7 μV , with an increase of $181.6\% \pm 279.3\%$ ($p = 0.004$). Early and late recurrences were found in 4 (10.8%) and 7 (18.9%) patients, respectively. In those without recurrence, there was a significant increase of SKNA 1 day after ablation, when compared to that before ablation. The changes were not observed in those with early and late recurrences. Twelve patients received SKNA check-ups 3 months after ablation, and both SKNA-Arm ($p = 0.31$) and SKNA-Chest ($p = 0.27$) were similar to those before ablation, respectively.

Conclusion: Among patients with symptomatic drug refractory paroxysmal AF receiving PVI, increased SKNA was observed 1 day after ablation and returned to the baseline 3 months after ablation. Elevation of SKNA was associated with lower early and late recurrences.