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Risk of incident stroke in Patients with Primary aldosteronism: A Nationwide Population-based Study

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Objectives : Hypertension is an independent stroke risk factor compared to normotensive patients. The primary hyperaldosteronism (PA) is the most common cause of secondary hypertension. The high stroke prevalence was 10-20% among PA patients. Besides, long-term hyperaldosterone leads to stroke. Whether difference target management contributes to different neurologic outcome is important. We take advantage of Taiwan National Health Insurance research databank to analyze the nationwide health care outcome for PA. We focused on the new onset stroke incidence from PA/APA with adrenalectomy or taking MRA treatment in the case-control study.

Methods : We identified 15835 beneficiaries enrolled in the Taiwan National Health Insurance system between 1997-2009, of whom 3254 had PA. We identified 3167 PA patients and 12668 pairs of EH matches. The stroke risks of PA/APA and mortality were estimated.

Results : We enrolled 3167 adult patients with PA, and identified 1047 adult patients with APA, into this study. The all stroke incidence is higher in PA group than its EH control (15.1% versus 9.9%, P<0.001); both the incidence ischemic (13.1% versus 8.6%, p<0.001) and hemorrhagic stroke (4.4% versus 2.1%, p<0.001) are higher in PA group than EH controls. The PA patients had a similar mortality risk (11.84% vs 12.23%, p=0.564) but higher composite outcome risk (15.95% vs 13.55%) than EH patients after target treatment. The PA patients had a higher stroke risk (aHR = 1.51, p<0.001) compared to their EH controls after taking mortality into competing risk. The PA patients receiving adrenalectomy had a similar risk to all strokes (aHR=0.53, p<0.001) compared to EH matches after adjusted with mortality as competing risk; however, the PA patients with MRA treatment had higher risk to all stroke (aHR=1.83, p<0.001) than their EH controls. During the follow-up, we noted the higher cumulative proportions of new stroke in PA patients with MRA treatment (HR= 2.06, 95%= 1.69-2.51, p<0.001) than EH patients however PA patients receiving adrenalectomy were similar to EH patients (HR= 0.64, 95%= 0.32-1.21, p=0.171).

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Conclusions : PA patients receiving adrenalectomy has lower stroke risk than PA patients with MRA treatment

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