

## Restless Legs Syndrome/Willis-Ekbom Disease in Diabetes as the Heralding Clinical Manifestation of Parkinson's Disease and Cardiovascular Disease

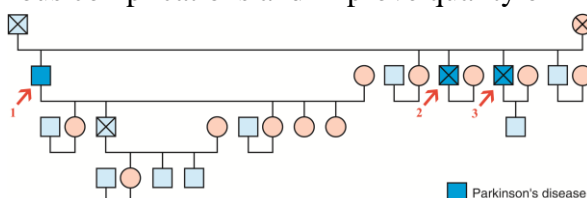
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**Introduction:** Restless legs syndrome/Willis-Ekbom disease (RLS/WED) is comorbid with certain medical conditions, but the temporal and causal relationships between RLS/WED, Parkinson's disease (PD), and cardiovascular disease (CVD) are not clearly established.

**Case presentation:** A 73-year-old man had been diagnosed with type 2 diabetes mellitus (DM) approximately 10 years before the diagnosis of intermittent RLS/WED. Although his RLS/WED symptoms were initially well controlled by a combination of non-pharmacological and pharmacological treatments, ropinirole (Requip®) (2 mg at bedtime), they were exacerbated 1 year after diagnosis. Gabapentin (Neurontin®) (600 mg twice daily) and clonazepam (Rivotril®) (1 mg at bedtime) successfully relieved the symptoms. On the other hand, hypertension and CVD, such as bilateral carotid artery stenosis and coronary artery disease, were observed, and he received irbesartan (Aprovel®) (150 mg daily) and aspirin (Bokey®) (100 mg daily). Three years later, he was diagnosed with PD based on clinical features. PD medications including levodopa + benserazide (Madopar®) (200 mg/50 mg three times daily) and amantadine sulfate (PK-Merz®) (100 mg twice daily) were administered, and the ropinirole (Requip®) dosage was increased. However, his condition declined within 1 year, and he was admitted to the nursing home. He had two older brothers with type 2 DM under regular treatment, experiencing symptoms of RLS/WED as well, and suffering from PD thereafter. They had died due to acute myocardial infarction and stroke several years prior. The genogram is shown in the Figure.

**Discussion:** RLS/WED in type 2 DM may signal that an individual could develop PD and CVD. Early identification and suitable management can prevent rapid deterioration and serious complications and improve quality of life.



**Figure:** Genogram. The patient and his two brothers were indicated by arrowheads and labeled as Cases 1, 2, and 3, respectively.

中文題目：糖尿病患者的不寧腿症候群為巴金森氏病和心血管疾病的早期表徵

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