

**Abstract**

**Potential relationship between Rosacea and Parkinson's disease**

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Rosacea is a common inflammatory condition characterized by transient or persistent facial erythema, telangiectasias, papules and pustules, for which an association has been reported to exist with Parkinson's disease (PD). We used a large, urban, single center, electronic medical record repository by searching the Northwestern Medicine Enterprise Data Warehouse (NMEDW) (> 4 million patients) for this association. Patients were included if they had an in-person encounter (Jan 2001 to May 2016) and with 1 year documentation of follow-up. Of these, all patients diagnosed with rosacea (ICD-9 codes: 372.31; 695.3, ICD-10 codes: L71.8; L71.9) and with a subsequent diagnosis of PD (ICD-9 code: 332; ICD-10 code: G20) were selected. Data on age, gender, race and tetracycline class therapy were collected. Adjusted odds ratio (OR) was obtained by using logistic regression analysis. A total of 815,210 patients were detected. 18,066 were diagnosed with rosacea, of whom 51 were subsequently diagnosed with PD (mean age: 74.5 years, range 53-89). A significant association between rosacea and PD was detectable after adjusting for age, gender, race and tetracycline class therapy (OR =1.7; 95%CI 1.27-2.22; p<0.001). Moreover, the adjusted odds ratio among untreated patients was higher than for rosacea-treated patients (ORs: 1.64 vs 1.10) and PD remained significantly associated with rosacea for both groups, suggesting that rosacea is an independent factor in the development of PD. These findings warrant further exploration for the relevance of this association between the two disorders.