TABLE 2. *AEs occurring in ≥5% of patients in any treatment group; safety set*

Preferred term*	Placebo (n=123), n (%)	Rotigotine (n=124), n (%)
Any AE	63 (51.2)	71 (57.3)
Nausea	4 (3.3)	11 (8.9)
Dizziness	7 (5.7)	10 (8.1)
Pruritus	5 (4.1)	10 (8.1)
Somnolence	4 (3.3)	10 (8.1)
Erythema	2 (1.6)	8 (6.5)
Vomiting	2 (1.6)	7 (5.6)

*MedDRA Version 16.1. Data are number (%) of patients reporting at least one AE.

Rating Scale (UPDRS) II+III total score compared with placebo, and resulted in a significantly greater number of UPDRS II+III responders (≥20% improvement). In these studies >95% patients were Caucasian.

Methods: Chinese patients with early-stage PD were randomized 1:1 to receive transdermally delivered rotigotine or placebo, titrated over 1-4 weeks, and maintained at optimal/maximum dose (≤8 mg/24 h) for 24 weeks. Primary efficacy variable: change in UPDRS II+III total score from baseline to end of maintenance (EoM). Secondary variables: change in UPDRS II (activities of daily living), UPDRS III (motor), and UPDRS II+III responder rates (≥20% decrease in UPDRS II+III). Safety outcomes included incidence of adverse events (AEs) and discontinuations due to AEs.

Results: Of 247 patients randomized, 220 (89.1%) completed the study (113/124 [91.1%] in the rotigotine group, and 107/123 [87.0%] in the placebo group). All patients were Chinese (150 [60.7%] male; mean [±SD] age: 59.4 [10.2] years), with mean (±SD) PD duration of 1.01 (1.22) years. Rotigotine significantly decreased UPDRS II+III total score vs placebo ($p<0.0001$; Table 1). UPDRS II and UPDRS III subscores were also decreased with rotigotine vs placebo (Table 1). The 20% responder rates were higher with rotigotine (52 [42.3%]) vs placebo (27 [22.3%]). Most common AEs are shown in Table 2. A total of 13 (5.3%) patients discontinued due to AEs (rotigotine: 6 [4.8%], placebo: 7 [5.7%]).

Conclusions: Rotigotine transdermal patch was efficacious in Chinese patients with early-stage PD, resulting in significant benefits in control of activities of daily living and motor function. Rotigotine was generally well tolerated and AEs were similar to those reported in the pivotal studies of Caucasian patients.

350

Rhythmic cueing with the Google glass for patients with Parkinson's disease

Y. Zhao, T. Heida, J.H. Nonnekes, R.J.A. van Wezel (Enschede, Netherlands)

Objective: To develop and test applications for rhythmic cueing in the Google Glass to improve gait in patients with Parkinson's disease (PD).

Background: Smartglasses, a type of wearable computer that possesses the features of a smart phone but can be worn like conventional glasses, offer new possibilities for therapy and continuous monitoring during activities of daily living. In particular, smartglasses like the Google Glass can provide visual and auditory cues that have long been used to improve gait disturbances in people with PD. Using motion and feature tracking, smartglasses can personalize cues based on the state of the user and/or the user environment.

Methods: To approach the design of cueing applications (app) for smartglasses in a user-centered way, we conducted an online survey in the Netherlands on the attitudes, needs, and preferences of people with PD with respect to this new technology. We then developed a mobile app for the Google Glass, using visual (e.g. flashing square and optical flow) and auditory (e.g. metro-nome) cues to modulate gait. In a pilot study with 10 patients with PD, the effectiveness of the app was tested to investigate 1) the feasibility of using the Google Glass as a cueing device and 2) which cueing modalities (e.g. audio, visual, or optic flow) were most effective in improving gait. The subjects were asked to navigate obstacle courses that simulate real life situations, including those known to induce freezing of gait (FOG). The temporal frequency of the cues were specified by the user according to their preferred walking speed. Various kinematic parameters were measured.

Results: The respondents of the survey were overall very enthusiastic about smartglasses' potential to help them self-manage their motor symptoms. Preliminary results with the custom cueing app for the Google Glass showed that temporal variability in gait and the frequency of FOG was reduced. Gait velocity and stride length need not necessarily be increased to improve the quality of gait. Consequently, patients gained more confidence in walking. In descending order, patients preferred the use of the metronome, followed by visual cues and optic flow.

Conclusions: Patients with PD were generally positive about the prospect of using smartglasses to facilitate activities of daily living. Smartglasses like the Google Glass have potential as a rhythmic cueing device.

Choreas (non-Huntington's disease)

351

New onset progressive chorea with elevated striational Ab titers

J.P. Battista, W. Tse (New York, NY, USA)

Objective: Introduction: There are numerous paraneoplastic, parainfectious and autoimmune processes described in association with rapid onset chorea in adults. Striational antibodies, which are commonly part of a paraneplastic panel, act on skeletal muscle and are most commonly seen in myasthenia gravis. In this case, a patient with chorea exhibited elevated levels of striational Ab, which has not been described before.

Case description: A 77-year-old man with a history of mild cognitive impairment, diabetes, high cholesterol, and aortic valve replacement on anticoagulation had presented to clinic initially with 5 weeks of rapid onset generalized progressive choreiform movements. The patient was at his baseline mental status. There was no family history of similar movements. Over one month, his movements became more severe with some resultant dysphagia and weight loss and was admitted for evaluation. A serum paraneoplastic panel resulted positive for striational ab with an elevated titer of 1:30720. During the admission, he had an MRI of the brain w/wo gadolinium, CT of the chest, abdomen, and pelvis, and lumbar puncture prior to administration of 5 days of intravenous immunoglobulin. Inpatient workup for neoplasm and CSF paraneoplastic panel (not including striational ab) were negative. There was a mild elevation in CSF protein (66), 14-3-3 (4.0), and serum ANA, Ach-R antibody and MuSK antibody were negative. The patient reported a decrease in dysphagia and mild reduction in the severity of his truncal and axial chorea after treatment with IVIG. Six days after discharge, his symptoms had improved further, only receiving one dose of risperidone 0.5mg 3 days prior. Two weeks after the outpatient visit, the patient's movements worsened and he was started on quetiapine to which the patient had an adverse reaction (rash) and was switched to risperidone 0.25mg twice a day with better control of his chorea.

Discussion: This case illustrates a presentation of rapidly progressive chorea with a workup positive only for a highly elevated striational antibody titer. This antibody is most commonly seen in myasthenia gravis, but the patient had a negative serologic workup for myasthenia and had no clinical findings to suggest that diagnosis. An elevated striational antibody has not been previously reported in a case of chorea, and we suggest it may be considered as part of the medical workup for causes of chorea.