mitochondrial area and count in the sPD cohort (p<0.05). The number and area of lysosomes was increased in sPD (p<0.05) with 15 sPD patients having a lysosome count >2 SD higher than the average of controls (154%), but CathepsinD/lysosomal activity was decreased. Treatment with ursodeoxycholic acid (UDCA) improved mitochondrial function, but not lysosomal impairment in sPD patient tissue with combined impairment of mitochondrial and lysosomal function.

Conclusion The detection of distinct pathogenic mechanisms in individual patients with sPD may help for future disease-stratification.

PO079 CERVICAL DYSTONIA IS ASSOCIATED WITH ABNORMAL REWARD BASED REINFORCEMENT LEARNING

Background The recent discoveries of genes implicated in striatal dopamine transmission in patients with cervical dystonia have emphasised the central role of the basal ganglia in the pathogenesis of the condition. Dopamine’s principle role within the striatum is to bias the action selection function of the basal ganglia towards the best outcome. Our hypothesis was that abnormalities of dopamine neurotransmission would result in a measurable bias in reward-based learning in patients with cervical dystonia.

Methods We used a reversal learning task to assess dopamine-based learning in a group of 40 patients with cervical dystonia and 40 age matched controls. Exclusion criteria included previous psychiatric diagnosis or current use of psychotropic medication.

Results Patients demonstrated a consistent impairment in reversal learning performance compared to controls (15% less rewards p<0.02) but equivalent pre-reversal reward and loss-avoidance performance. The contribution from abnormal prediction error signalling are explored using a combination of computational modelling and fMRI.

Conclusions Patients with cervical dystonia have impaired reward-reversal learning. Treatments which aim to enhance reinforcement learning could be explored as future options for both motor and non-motor symptoms in these patients.

PO081 MYOCLONUS DYSTONIA AND RUSSELL-SILVER SYNDROME IN A PATIENT WITH A MICRODELETION OF CHROMOSOME 7Q

Background The two faces of a functional neurological disorder: the two faces of a functional neurological myoclonus dystonia and Russell-Silver cervical dystonia is associated with abnormal dopamine striatal dopamine transmission in patients with cervical dystonia. Dopamine’s principle role within the striatum is to bias the action selection function of the basal ganglia towards the best outcome. Our hypothesis was that abnormalities of dopamine neurotransmission would result in a measurable bias in reward-based learning in patients with cervical dystonia.

Methods We used a reversal learning task to assess dopamine-based learning in a group of 40 patients with cervical dystonia and 40 age matched controls. Exclusion criteria included previous psychiatric diagnosis or current use of psychotropic medication.

Results Patients demonstrated a consistent impairment in reversal learning performance compared to controls (15% less rewards p<0.02) but equivalent pre-reversal reward and loss-avoidance performance. The contribution from abnormal prediction error signalling are explored using a combination of computational modelling and fMRI.

Conclusions Patients with cervical dystonia have impaired reward-reversal learning. Treatments which aim to enhance reinforcement learning could be explored as future options for both motor and non-motor symptoms in these patients.