P074 Effects of full and partial dopamine D_2 receptor agonists on striopallidal GABA transmission in the awake rat.

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Partial dopamine D_2 receptor agonists are proposed to be beneficial for treating motor dysfunction in Parkinson's disease without the side effects associated with conventional treatments. In the present study we employed microdialysis in the external globus pallidus (GPe) to investigate the effects of an acute oral administration of two behaviourally active doses of the full dopamine D_2 receptor agonist pramiprexole and three partial D_2 receptor agonists terguride, aripiprazole and -3PPP on local GABA release.

Basal dialysate GABA levels in the GPe were 21.49 ± 0.784nM ($n = 112$)). Pramiprexole (0.1 and 0.3mg/kg, *p.o.*) was associated with a prolonged (260 min) dose dependent reduction in GABA release ($63.22 \pm 0.33\%$ $p < 0.001$ *v's* control and $67.73 \pm 0.57\%$ $p < 0.01$). Terguride (3mg/kg and 10mg/kg) also reduced GABA release and this reduction was also more potent at the lower dose ($50.13 \pm 1.14\%$, $p < 0.001$ and $68.52 \pm 0.42\%$ $p < 0.01$). Aripiprazole and -3PPP (10 and 30mg/kg, *p.o.*) also decreased GABA release but to a lesser extent ($81.92 \pm 2.03\%$ $p < 0.01$, $80.99 \pm 0.78\%$ $p < 0.05$ and $85.64 \pm 2.2\%$ $p < 0.01$, $79.17 \pm 1.45\%$ respectively). The reduction in GPe GABA release may reflect the relative potency of these agonists to induce a striatal dopamine D_2 receptor mediated decrease in striopallidal GABA transmission.