Cannabis and TS

- Case series (Sandyk & Awerbuch, 1988; Müller-Vahl et al, 1998; Abi-Jaoude et al, 2017; Thaler et al, 2018; Milosev et al, 2019)
- Two RCTs (Müller-Vahl et al, 2002; Müller-Vahl et al, 2003)
  - Oral THC
  - Findings inconsistent

Objective

- Efficacy and tolerability of three vaporized medical cannabis products and placebo for tics
  - Primary efficacy endpoint: MRVTRS
  - Secondary efficacy endpoints: PUTS, SUDS, CGI-I
  - Correlation with cannabinoid plasma levels
  - Tolerability

Analysis

- Nonlinear mixed effects modelling
- Repeated measures
- Adjusted for baseline score
- Treatment order effects
- Correlation with cannabinoid plasma levels
- Adjusted for multiple comparisons

Design

- Single dose
- 2-week washout

- Vaporized cannabis, 0.25 g
  - THC 10%
  - THC/CBD 9%/9%
  - CBD 13%
  - Placebo THC <0.3%, CBD <0.3%

- Sampling: 0, 0.5, 1, 2, 3, 5 hours
  - MRVTRS, PUTS, SUDS
  - Blood: THC, OH-THC, COOH-THC, CBD

Results

- 11 males, 1 female; 38 yo (22-54)
- OCD (7), ADHD (6), anxiety (4), depression (3), ASD (1)
- YGTSS-TTS 28.7 (15-44)
- Concurrent meds – 7 participants: antipsychotic (3), benzotropine (2), SSRI (3), bupropion (1), stimulant (2), anticonvulsant (1), benzodiazepine (3), other (4)
- Past cannabis use (3)

- 3 dropouts
  - Adverse event – syncope/seizure (1)
  - Unable to draw blood (1)
  - Schedule (1)

- 68 screened
- 17 met inclusion criteria
- 12 randomized
- 5 wld prior to randomization
- Schedule (1)
- Using cannabis (1)
- Needle phobia (1)
- Product supply (2)

- No statistically significant difference on MRVTRS
- THC 10% significantly better than placebo on secondary outcomes
- THC and metabolite plasma levels correlated with improvement on all measures
- THC 10% resulted in the most AEs
- This pilot data will inform the design of a larger chronic treatment RCT

Conclusions

Participants

-../../touretteSyndrome.pdf