Can we predict onset of tic disorder during methylphenidate treatment? A neuroimaging study

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Purpose
It is aimed to investigate whether there is a difference in volume and fractional anisotropy of basal ganglia between the children with ADHD who had tic disorder after psychostimulant treatment and the children who had not psychostimulant induced tic disorder.

Methodology and Study Design

30 children with ADHD 6-17 years

Tic previously OR Family history of tic disorder

Yale Global Tic Severity Scale

K-SADS-PL a

Contraindication for MPH b

Comorbid psychiatric disorder

EXCLUDE

YES

EXCLUDE

NO

MRI c and DTI d

ADHD DSM-IV Based Diagnostic Screening

Barkley Stimulant Drug Side Effects Rating Scale

2nd, 4th and 8th week of treatment

Tic induced ones

Non-tic induced ones

Results
We could recruit only three patients for our study. Tics appeared merely in one of them (12 years old girl). She had chronic complex motor tics (blinking, pursing her lips, nose wrinkling, shaking her head) which initiated 8 years ago and they were absent for four months ago. Tics appeared within the second week of treatment.

Conclusion
Preliminary results of ongoing study were reported. In line with literature, tics appeared in 1 of 3 children after MPH treatment in our study. [2] After we complete recruitment, we will be able to interpret association between tic occurrence and related brain domains.


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