

Functional tic-like behaviors in patients with Tourette syndrome

Natalia Szejko^{1,2}, Anna Pisarenko³, Carolin Fremer³, Martina Haas³, Ewgeni Jakubovski³ and Kirsten R. Müller-Vahl³

1 – Department of Neurology, Medical University of Warsaw, Poland

2 – Department of Bioethics, Medical University of Warsaw, Poland

3 – Clinic of Psychiatry, Socialpsychiatry and Psychotherapy, Hannover Medical School, Germany

Background:

Until recently, it was believed that functional tics are a rare presentation of functional movement disorders (FMD). Hence, co-occurrence of tics and functional tic-like behaviors (FTB) in patients with Tourette syndrome (TS) is a largely neglected clinical presentation and up to now, only very few patients have been described. The main objective of this work is to raise awareness of comorbid FTB in patients with TS.

Methods:

We analyzed clinical data of 71 patients (mean age=21.5 years, range, 11-55, n=27 females (38.0%)) who had been diagnosed in our specialized TS outpatient clinic with TS and comorbid FTB between 2016 and 2021. Data were compared with a large sample of patients with primary chronic tic disorders (n=1032) from the same center.

Results:

In any case, onset of FBT (mean age=20.8 years, range, 10-47 years) was after tic onset (mean age=6.3 years, range, 0-21 years), on average after 14.5 years (+/-9.5 (SD)). Sixty-one patients (86%) described FTB onset as a sudden symptom worsening and 38 patients (53.5%) were able to precisely indicate the date due to abrupt onset of FTB. Different from tics, FTB mainly presented with complex movements (n=57, 80%) located at the upper extremities (most frequently presenting with throwing and breaking of objects, self-hitting, hitting others, and obscene gestures), involvement of several body parts or whole body (e.g., lying on the floor) and thus did not follow the typical rostro-caudal distribution of tics. Most frequent presentation of vocal FTB were complex vocalizations (e.g., obscene words and phrases, screaming, animal sounds, repetitive shouting of phrases) including functional coprolalia in 27 patients (38%). Thirty-three patients (46%) reported

that FTB typically occurs in clusters persisting for hours and were often described as “tic attacks”. More than half of patients (n=38, 53.5%) reported concrete timely-related factors that preceded FTB onset. While most patients reported stress being the most relevant triggering factor for tics, FTB were mainly influenced by very different factors such as the presence of a particular person and occurrence only in particular positions, specific locations, or situations. Forty-four patients (62%) reported a complete remission of FTB in particular situations. Remarkably, 47% of patients with TS+FTB were transferred to our clinic as being “treatment-resistant”.

Compared to our large sample of patients with primary chronic tic disorders (n=1032), we found no differences with respect to mean age and mean age at tic onset, but the TS+FTB group comprised significantly more females (38% vs. 23%, $p=0.003$) and had significantly more coprophenomena (43% vs 28%, $p=0.005$), significantly less ability of symptom suppressibility (72% vs. 85%, $p=0.002$), and significantly higher rates of comorbid obsessive-compulsive disorder (23% vs. 10%, $p<0.001$) and self-injurious behavior (56% vs. 30%, $p=0.009$).

Conclusions:

FTB is a common comorbidity in patients with TS. Particularly in patients with abrupt onset of so far unknown complex movements and vocalizations, co-occurrence of FTB should be taken into consideration.