to results of the univariate variation analysis of 2 (patients and controls) X 2(males and females), PARI subscale scores showed significant group difference in the over-protective mothering group; adolescents from the SP group showed higher scores on the protective mother scales than controls ($F(3.256)= 3.05$; $p<0.03$). Gender differences were not found between the groups.

When we analyzed the parents' experiences, PARI subscales showed significant differences for PARI1 (over-protective mothers) subscale, for mothers ($F(3.163)= 2.73$, $p<0.05$) and for fathers ($F(3.256)= 3.05$, $p<0.03$). They were significantly higher than those of the control group's mothers and fathers. Also, a significant gender difference was found for fathers ($F(1, 377)= 7.27$; $p<0.009$); the fathers of both the SP and control groups scored significantly higher for girls on the PARI1 over-protective mothering scales. No significant differences were identified with relation to the other subscales.

DISCUSSION: This study aimed to consider the roles of variables like family parenting styles, parents' levels of anxiety, avoidance behaviors, and childhood adverse events in individual risk for the development of SP. For those diagnosed with this disorder, rates of parental divorce, separation and death of a parent were found higher than in the control group. In the literature, some studies showed a relationship between incidence of this kind of traumatic experience and the development of this disorder while others did not.

The results of this study showed that the mothers and fathers of those diagnosed with SP showed higher levels of anxiety and avoidance behaviors in social situations than controls. Studies examining the genetic inheritance for SP show a concordance for monozygotic twins of 24% and for dizygotic twins of 15%; for close relatives, the frequency of the disorder is also 15%. The high levels found for social anxiety and avoidance behaviors among the parents of our patient group are in agreement with Bandura's model, suggesting that children's anxious thinking and avoidant behaviors are socially learned. Stemberger's study described patients' parents as having limited social relationships and being avoidant. Bruch et al. suggest in their study that patients took parental behavior assessed as socially anxious as a model and thus learned the disorder. It is also possible that when parents limit children's initiative, discourage alternative behaviors for initiative, or abuse them, the way may be paved for the development of the disorder. Studies in the literature show a relationship between parental attitudes toward initiative and encouragement of initiative, and the development of SP[3].

Another important finding of this study was that the patient group scored higher on the over-protective parent style (PARI 1) scale in comparison with the control group. In the literature, when parenting approaches have been examined retrospectively, SP patients' parents have generally been described as over-protective, rejecting, or neglectful[4].

This study was limited in the range of anxiety disorders that it examined and was cross-sectional. We would recommend studies considering other anxiety disorders and with a longitudinal design that examine the reciprocal parent-child relationships in this area.

In conclusion, we determined that when compared with a control group, SP is related to specific family characteristics like parental anxiety levels, avoidance levels and parental attitudes. In future studies, larger sample sizes and groups drawn from broader diagnostic categories would be useful. Prospective, qualitative studies will help to determine the etiological factors that contribute to the development of SP.

Keywords: developmental model, parental child rearing attitude, social phobia

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[Abstract:0693] ***Tic disorders***

Antipsychotics use in children with tic disorders: a cross-sectional study

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INTRODUCTION: Tics are involuntary movements seen commonly and widespread in the childhood period as motor or vocal involuntary muscle contractions which show a sudden, rapid, intermittent, recurrent, non-rhythmic, stereotyped nature. Many patients with tic disorders do not need to receive any medication because their tics are mild, transient, and without causing any social or functional impairment. In some patients, however, social isolation and stigmatization, a decrease in academic performance, and low self-esteem

levels stemming mainly from the tics could cause social and functional deterioration. In these situations interventions would be necessary to treat the tics.

Management of tic disorders is one of the most problematic issues in child psychiatry discipline. There is no standard treatment protocol for the tics. Psychoeducation, family interventions, behavioral approaches and pharmacotherapy could be used individually or in combination for the treatment. Pharmacotherapy uses two groups of agents: antipsychotics and non-antipsychotics. Most psychotherapeutic agents in this field are antipsychotics. This study aimed to evaluate the children aged 3-18 years with tic disorders retrospectively in a cross-sectional study.

METHODS AND MATERIALS:

Sample: Over a one year period, records of children and adolescents admitted by our child psychiatry outpatient clinics were retrospectively evaluated and data of those diagnosed with tic disorders according to the DSM-IV-TR were examined in detail. Clinical features, comorbid psychiatric disorders, and medications used were noted.

Statistical Analysis: For data analysis, SPSS for Windows of 17.0 (Statistical Package for Social Sciences, Version 17.0, Chicago: SPSS Inc., 2008) statistical software package was used. Categorical variables were analyzed with chi-square ($\chi 2$) test. Predictors of medication use were analyzed with logistic regression analysis. $p<0.05$ was accepted as statistically significant.

RESULTS: Data of 92 children diagnosed with tic disorders were collected. Mean age of sample was 10.7 (±3.1) (3-18 years). Males were 79.3% (n=73) and females were 20.7% (n=19). According to the age groups, children (3-11 years of age) represented 63.0% (n=58) and adolescents (12 years of age and above) 37.0% (n=34). According to the DSM-IV-TR tic disorders classification, 46.7% (n=43) of all children had 'tic disorder not otherwise specified (NOS)', 23.9% (n=22) of them had 'Tourette Syndrome', 20.7% (n=19) of all had 'chronic tic disorder with single or multiple motor tics' and 8.7% (n=8) had 'transient tic disorder consisting of multiple motor and/or phonic tics'. There was a significant correlation between being male and having any of tic disorders compared to females ($\chi 2=10.620$, $p=0.014$), while values were found similar between children and adolescents ($\chi 2=5.574$, $p=0.134$).

At least one psychiatric disorder was found in 43.5% (n=40) of children with tic disorders. These comorbidities were the following: 25.0% of them had attention deficit hyperactivity disorder (ADHD), 9.8% of all had anxiety disorders (outside of obsessive compulsive disorder (OCD)), 7.6% of all had specific learning disorder (SLD), 5.4% of all had mental retardation (MR) and 4.3% of all had OCD.

There was no difference between sexes in terms of having any comorbid psychiatric disorder ($\chi 2=1.380$, $p=0.303$). Comorbidity distribution between the age groups (children versus adolescents) was also similar ($\chi 2=0.933$, $p=0.334$).

At least one pharmacotherapeutic agent use was found in 45.7% (n=42) of all children with tic disorders, whereas 54.3% (n=50) of the children were not using any psychotropic agents. The most prominent agent group being used was antipsychotics (31.5%, n=29), which included the following: aripiprazole (15.2%, n=14), risperidone (13.0%, n=12), and haloperidol (3.3%, n=3). The other medications used were atomoxetine (ATX; 9.8%, n=9), methylphenidate (MPH; 6.5%, n=6), and selective serotonin reuptake inhibitors (SSRIs; 6.5%, n=6). Significantly higher medication use in children with tic disorders was found if they had any comorbid psychiatric disorders ($\chi 2=24.567$, $p<0.001$).

Predictors of any psychotropic medication were the following: having Tourette Syndrome ($p=0.001$, Beta=0.082, 95%CI [0.018-0.380]) and the presence of comorbid psychiatric disorders ($p=0.003$, Beta=0.057, 95%CI [0.009-0.374]). In this cross-sectional sampling, the only predictor for antipsychotic medication use was having Tourette Syndrome ($p=0.009$, Beta=0.177 95%CI [0.048-0.650]).

DISCUSSION: Tic disorders are neuropsychiatric disorders starting in the childhood period which have an unclear etiology and heterogenic manifestations. In this study, antipsychotic agents used in children with tic disorders were evaluated in a clinical sample with a cross-sectional study design. Several studies reported that comorbidities in tic disorders are frequently seen, and the most common of them are ADHD, OCD, SLD, and anxiety disorders. In our samples, OCD frequency was found lower than in the literature. Lower OCD rates found in this study might result from the relatively limited size of our sample.

It has been reported that atypical antipsychotic agents are more frequently chosen drugs for treating tic disorders than other psychotropic agents. In our study, aripiprazole and risperidone were found the most used agents to treat tics, consistent with the literature. The reason may be that these two atypical antipsychotic drugs are very well-known as safe to use during childhood with lower adverse-effect profiles. It might also be possible that a lack of alpha-2 agonists in our country for the treatment of tics could lead to an increase of using antipsychotic drugs.

ADHD comorbidity in tic disorders was reported as seen at a rate of 20-90%. In our study, every one out of four children with tic disorders also had an ADHD diagnosis, which is consistent with the literature. This could also explain the rate of agents (17%) that are used for ADHD treatment such as MPH and ATX. Using SSRIs would be associated with the presence of comorbid anxiety disorders and OCD.

Half the sample did not use any psychotropic agents. This is consistent with any treatment guidelines for tics, explaining that psychosocial interventions were used at the first stage of developing tics in these patients.

TS has more severe clinical manifestation on account of its chronic nature and presence of emotional and behavioral problems accompanying it. As one of the predictors of using psychotropic medication, having TS could very well associate with its clinical presentation. Comorbid situations in tic disorders are known to increase the deterioration of the functioning. For this reason, it is no surprise to find that another predictor of using pharmacotherapy was the presence of any psychiatric comorbidity. It is, however, very

noticeable that although comorbidity presence and having TS were found as predictors of using drugs in tic disorders, comorbidity was not found as the predictor of using antipsychotic drugs. This could be explained as firstly chosen drugs were the primary treatment option (MPH, ATX, and SSRIs) of the accompanying disorders to the tics instead of the antipsychotics.

All in all, for an optimum treatment of tic disorders, comorbid situations accompanying tics are also be considered. Management of tic disorders should be comprehensive, including education, behavioral approaches and psychopharmacotherapy.

CONCLUSION: This is a descriptive study of children with tic disorders, and findings point out Tourette Syndrome and having another psychiatric disorder are prominent elements for the use of psychotropic medication.

Generally our results are consistent with the literature. Generalization of all results is not possible, though, because of its small sample and its cross-sectional nature. There is a need to study in this fields with prospectively planned, multi-center research with and larger samples to evaluate tic disorders and antipsychotics use.

Keywords: Tic disorders, children, antipsychotics

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[Abstract:0695] ***Biological psychiatry and neuroscience***

Arterial stiffness measurements in patients using atypical antipsychotics

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OBJECTIVE: Patients with serious mental illnesses such as schizophrenia and bipolar disorder have a 25- to 30-year shorter life span, and the main reason of increased risks of morbidity and mortality is cardiovascular disease (CVD) and stroke compared to the general population[1-2]. Epidemiologic investigations suggest that these patients have an increased prevalence of cardiometabolic risk factors, such as overweight and obesity, dyslipidemia, diabetes, hypertension, and smoking. Treatment with second-generation (atypical) antipsychotic medication can also be associated with adverse metabolic effects. Some of them are associated with substantial weight gain and adverse metabolic effects, while others have less prominent effects on these aspects. Arterial stiffness has been identified as an independent risk factor for atherosclerosis and cardiovascular disease. Several indices have been developed to characterize arterial stiffness, of which pulse wave velocity (PWV) is the most recognized and established index[3], because it is very evidential and measurable by commercially available devices. The parameter of real spreading of the pulse wave in the arterial system is pulse wave velocity (PWV) or pulse transit time (PTT), related according to PWV=L / PTT. L is the longitudinal distance of two points between which the velocity is measured. The PWV and PTT increase as large arteries stiffen with age or disease processes.

In this paper we examine the vascular indices as PWV, PTT (Pulse Transit Time) in patients with schizophrenia and bipolar disorder who widely use antipsychotics that are known to be associated with adverse weight and metabolic effects.

MATERIAL AND METHODS: Patients with diagnosis of schizophrenia or bipolar disorder judged to be clinically stable on treatment with oral quetiapine (QUET n=16), risperidone (RISP n=13), olanzapine (OLZ n=15) and aripiprazole (ARP n=13) for at least 6 months and controls (n=40) were recruited into the study. Mean upper limb vascular indices (PWV, PTT), pulse rate, SDB (systolic blood pressure), and DBP (diastolic blood pressure) were compared by Independent sample test in all patients and medicine groups and were also compared to the control group. The pulse waves were recorded via a pulse oximeter transducer using the Neuro-MEP-Micro (v.2009) electromyography device (Neurosoft Medical diagnostic equipment, Ivanovo, Russia), in supine resting condition. The distance between the sternal notch and the index finger pulp was measured in meters. The upper limb pulse wave velocity was calculated by dividing