



Case report

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Klinefelter Syndrome Comorbid with ADHD and ASD in a School Boy: a Case Report

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Objects

Klinefelter Syndrome (KS) is a quite common sex chromosome aneuploidy (47, XXY) and cause of male hypergonadotropic hypogonadism. It is characterized by extreme clinical heterogeneity and variety in presentation, including infertility, hypogonadism, speech delay, metabolic anomaly, and neurocognitive and psychiatric disorders. Literature review shows that children with KS usually experienced increased risk of impairments with language learning, executive functioning, social cognition, emotion regulation. Struggles in these areas contribute to significantly higher rates of a number of neurodevelopmental and psychiatric diagnoses such as ADHD and ASD, which were diagnosed 5.6 times and 6.2 times more often in adult men with XXY compared to peers with XY respectively. Here we present a 9 years old boy who was diagnose as KS and his neurocognitive symptoms developed as he grows up.

Case Report

A 7-year-old boy was brought to our clinic in Oct 2020, with the concern of poor attention and frequent temper outbursts observed in his primary school class. He was diagnosed as KS by amniocentesis before his birth. He cannot speak any words until 2 years old. Short eye gazing, lack of joint attention, poor learning ability have all been observed, too. He received speech therapy, occupational therapy and physical therapy regularly after the age of 3 at several rehabilitation clinics, but only with very slow and small progress. After attending primary school, he experienced major problems for maintaining attention at classes, managing himself at seat, and finishing his homework. Fidgeting, spacing out, forgetfulness, misspelling/writing have all been reported by teachers and parents.

Furthermore, emotional dysregulation, temper tantrums, sticky to certain rules and routines made him quite unpopular with peers. He was brought to our clinic under the advice of school teachers.

Psychological test was done and borderline IQ (FSIQ=74) was found in WISC-IV. Difficulties in social cue understanding, lack of flexibility and inadequate social knowledge all have been noticed with poor attention and high impulsivity. He was treated with long acting Methylphenidate 20mg/d initially with unsatisfying response. Frequent conflicts with peers at school were still reported. He was enrolled into our social skill training group and received treatment weekly. Aripiprazole 10mg and Sertraline 50mg daily were added gradually and methylphenidate was titrated up to 40mg/d. His impulse control and emotional regulation both have got overt improvement and performed much better at school, with the help of special educational program.

Discussion

Individuals with KS are at greater risk for a number of neurodevelopmental and psychiatric diagnoses. Attention shall be paid for quite a variant of comorbidities in later days and interventions shall be prepared and planned as early and comprehensive as possible to enhance young KS children's overall development and wellbeing.

Acknowledgement

None.

Conflict of Interest

No Conflict of interest.

References

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