

**Case report**

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## **EFFECTIVE INTERMITTENT ADMINISTRATION OF NABIXIMOLS IN A PATIENT WITH AUTISM (ASPERGER'S SYNDROME)**

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A 46-year-old male patient suffering from Asperger's syndrome tried to improve autism including social isolation by means of intermittent doses of off-label nabiximols for five years. He confirmed drug abuse 18 years before and was clean in repeated drug tests in our outpatient clinic. He was able to initiate contacts, to complete training in informatics and went freelance as an IT expert. After cessation of nabiximols, his clinical state deteriorated again, including social decline. Although the case shows substantial improvement in autism by intermittent administration of nabiximols, further investigations are necessary to prove the principle. *Acta Medica Medianae 2017;56(2):102-104.*

**Key words:** *Asperger's syndrome, Nabiximols, cannabinoid receptors, re-integration*

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tions fit with the presented first case report of an effective treatment of a patient with Asperger's syndrome with nabiximols.

### **Case report**

The patient was diagnosed at the age of 38 with Asperger's syndrome in the Center for Autism Spectrum Disorders (ICD 10 F84.5), which clinically corresponded to his isolated life style and lack of long-term professional success. He was referred to our outpatient clinic at the age of 46 for the first time. Ten years before the diagnosis of autism, aged 28 years, he had been successfully treated for polytoxicomania, including intake of cannabis, speed, heroin, cocaine and mushrooms. He also had a history of migraine and cluster headache. He had tried several SSRIs and atypical antipsychotics to treat autism without success. When he asked for help in our outpatient clinic, he was very desperate due to his autistic complaints and social decline.

Serendipitously, he noticed that intermittent intake - twice a month 2 to 3 puffs a day - of tetrahydrocannabinol (THC) or nabiximols (SativexR) improved his symptoms dramatically and that he could think, concentrate and communicate better. He was inhaling the off-label medication for 5 years between 2010 and 2015. He tolerated well the doses but abstained from driving for a few days after intake. He was able to get along as a self-employed IT expert. As he was initially not able to fund the expensive medication, he benefitted from a friend who sponsored the medication. He did not report adverse events during administrations of nabiximols. Repeated drug screenings and clinical laboratory on out-patients visits were completely negative including THC. His health insurance refused off-label prescription of nabiximols so that we agreed upon regular psychotherapeutic interventions every

### **Introduction**

Asperger's autism is a rare disorder with variable prevalence findings of about 0.25 to 1 per 1.000, which deteriorates normal professional or private development (1-3). Despite substantial research efforts in the last decades, no really effective medication is available yet (4), and psychotherapy is difficult due to the lack of communication skills of the patients. A deficit of CB1-mediated endocannabinoid receptor pathways in the Ncl. accumbens, responsible for social reward process, with relation to autistic symptoms, has been postulated and may be a new approach to treat the disorder (5).

Nabiximols (Sativex®) is an extract of cannabis administered by a pump spray in patients with multiple sclerosis. Each application delivers 2.7 mg Tetrahydrocannabinol and 2.5 mg cannabidiol (6, 7). Medical indications are spasticity and neuropathic pain, but nabiximols may be effective in overactive bladders or cancer pain, too. Both components of nabiximols bind to the G-protein mediated CB1 or CB2 receptors. CB1 receptors are predominantly expressed in the brain and CB2 receptors mainly in immune cells. The preclinical observa-

month. Unfortunately, he could not hold his financial independence but relied on social welfare after cessation of nabiximols. We thank the patient for his consent to publish the case.

### Discussion and conclusion

The case shows that off-label use for about 5 years of nabiximols substantially improved the social integration of a patient diagnosed with Asperger's syndrome. He was able to work and could hold social contacts in his environment. The social problems deteriorated again after cessation

of the medication. Unfortunately, the improvement of well-being was not substantiated by neuropsychology as the patient was referred behind time and the role of addiction remains a critical issue.

In conclusion, a 46 year-old patient suffering from Asperger's syndrome improved markedly after intermittent inhalation of THC/Cannabidiol (nabiximols) and was able to participate in social and professional life. The brief case report is for sure preliminary, but may encourage further controlled studies to investigate this therapeutic option.

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**Prikaz slučaja****UDC: 616.89-008.48-085:615.212.7**  
**doi: 10.5633/amm.2017.0215****EFEKTIVNO DAVANJE LEKA NABIKSIMOLSA SA PREKIDIMA  
KOD BOLESNIKA SA AUTIZMOM (ASPERGEROV SINDROM)***Horst J. Koch*

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Četrdesetšestogodišnji bolesnik koji pati od Aspergerovog sindroma pokušao je da popravi svoje stanje kod autizma, uključujući i društvenu izolovanost, uzimanjem doza nabiximolsa u razmacima, u trajanju od pet godina. Bolesnik je potvrdio korišćenje droge osamnaest godina pre toga i bio je negativan na svim ponovljenim testovima koji su rađeni u ambulantnim uslovima. Bio je u stanju da komunicira sa ljudima, da završi kurs iz informatike i da počne da radi kao samostalni IT stručnjak. Po prestanku uzimanja nabiximolsa, njegovo kliničko stanje se ponovo pogoršalo, uključujući i socijalni aspekt. Premda ovaj slučaj pokazuje značajno poboljšanje stanja kod autizma uzimanjem nabiximolsa sa pauzama, potrebna su dalja istraživanja za potvrdu ovog principa. Acta Medica Medianae 2017;56(2):102-104.

***Ključne reči:*** : *Aspergerov sindrom, nabiximols, receptori za kanabis, reintegracija*

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