sant medications are preferred to benzodiazepines as a first-line of treatment for anxiety disorders in the elderly.[6] Psychotherapy, particularly cognitive behavior therapy, is often effective in these disorders as well.[6]

We reviewed symptoms of three cases in which onset of anxiety symptoms developed after age 60 as a result of having a medical procedure. They were highly functioning individuals and anxiety symptoms led to impairment of their social and occupational life. They were all successfully treated with selective serotonin reuptake inhibitor medications without any side effects and achieved the overall level of functioning.

The first case was a 61-year-old male who worked in graphic art. He developed severe neck pains and a magnetic resonance imaging scan (MRI) of cervical spines was recommended. After having the MRI, he developed recurrent unexpected panic attacks and anxiety about being in a closed place. Commuting to work caused marked distress and he subsequently avoided traveling in a bus, train, or car, and his daily activities were restricted. He initially refused to consider any medications that might limit his creativity. He agreed to a trial of sertraline, 50 mg/day, which was increased gradually to 100 mg. He noted significant improvement in intensity and frequency of his panic attacks and regained the ability to use the public transportation without any fear.

The second case involved a 61-year-old female who was a medical technician.

She suffered gastrointestinal reflux disease and underwent diagnostic upper endoscopy. Since then, she had been feeling anxious, and had poor concentration, frequent unpredicted panic attacks, and anxiety about being in a crowd. She could not resume her work and preferred to stay home to avoid situations that might provoke her anxiety. She was prescribed sertraline and was maintained on 150 mg/day. She reported lower anxiety level, became comfortable in public, and decided to look for a part-time job.

The third case was a 75-year-old male. He was a retired photographer and developed minor neurological deficits. Computed tomography scan (CT) of the head was conducted. After the image study, he started to have periods of intense fear and excessive worry cued by his presence in places from which escape might be difficult. He isolated himself at home, stopped going to church services and the senior citizen center, and suffered depression. He showed significant symptom response on paroxetine, 40 mg/day.

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References

1. Sadock BJ, Sadock VA: Geriatric psychiatry, in Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 9th ed. Philadelphia, Lippincott, Williams & Wilkins, 2002, pp 1318–1337
2. Flint AJ: Management of anxiety in late life. J Geriatr Psychiatr Neurol 1998; 11:194–200
3. Rangaraj J, Pelissolo A: Anxiety disorders in the elderly: clinical and therapeutic aspects. Psychol Neuropsychiatr Vieil 2006; 4:179–187
4. Flint AJ, Gagnon N: Diagnosis and management of panic disorder in older patients. Drugs Aging 2003; 20:881–891
5. Flint AJ: Epidemiology and comorbidity of anxiety disorders in later life: implications for treatment. Clin Neurosci 1997; 4:31–36
6. Lenze EJ, Pollock BG, Shear MK, et al: Treatment considerations for anxiety in the elderly. CNS Spectr 2003; 8(S3):6–13

Aripiprazole Diminishes Cannabis Use in Schizophrenia

To the Editor: Aripiprazole is the first partial agonist dopaminergic D_2 with clear antipsychotic effect. Many schizophrenic patients will develop comorbid substance abuse. Cannabis consumption may worsen psychotic symptoms of schizophrenic patients.[1] We describe the case of a schizophrenic patient whose use of cannabis and related problems disappeared after treatment with aripiprazole.

Mr. A, a 33-year-old Caucasian patient with schizophrenia, has since his mid-20s been treated with olanzapine, 20 mg/day, and escitalopram, 10 mg/day. He did reasonably well with this regimen but was apragmatic. He frequently used cannabis every day (urine screen for tetrahydrocannabinol [THC] was positive). He was moderately obese (BMI: 28) but had no other medical problems. He lived in a community house, in which nurses ensured that he was compliant with treatment. His Brief Psychiatric Rating Scale (BPRS) score was 52. Before his mid-20s, the patient was treated successively for different classic antipsychotic conditions (i.e., haloperidol, bromperidol, and pimozide) and he reported increased cannabis abuse concomitant with these regimens.

Aripiprazole, 15 mg/day, was added to his treatment regimen. After 1 week, the olanzapine dose was decreased to 10 mg. One week later, olanzapine was discontinued. After 5 weeks, escitalopram treatment was discontinued because the pa-

tient was euthymic. Three months later, the patient signaled he felt very good and did not need cannabis anymore. After 12 months of treatment with aripiprazole the patient had not relapsed and did not use cannabis at all (urine screen did not reveal any THC). Moreover, his BMI was 24 and BPRS score decreased to 40.

This case report highlights different proposals about mechanism of action and side effects.

First, the concurrence of the diminution of cannabis consumption with the patient's treatment with aripiprazole suggests that aripiprazole contributed to the occurrence of this diminution. Different mechanisms may have played a part, such as aripirazole's partial agonism at dopamine D_2 receptors.[2] A similar observation was made with cocaine dependence.[3] Dopamine stimulation in the nucleus accumbens has been suggested to cause addictive behavior and aripiprazole's partial dopamine agonist effect in this area may reduce this behavior.[4] In addition, aripiprazole has a number of serotonergic actions that are not related to dopamine potentially modulating the response to THC.[5,6] Other mechanisms may be involved and Mr. A's rapid cessation of cannabis use after starting aripiprazole suggests the need to verify these mechanisms systematically and to plan controlled trials.

Second, several factors have to be considered when regarding why there may be a concomitant increase in substance abuse with the older antipsychotics. It was suggested that a strong antagonist effect at the dopamine D_2 receptors in the nucleus accumbens was involved in concomitant increase in substance abuse with old antipsychotics.[7] Moreover, unrelated to dopaminergic mechanisms, the use of certain antipsychotics with substantial side effects by schizophrenia patients may actually contribute to greater substance use in an effort to self-medicate the side effects.[8,9]

Finally, there could be at least two explanations for the weight loss. The reduction of cannabis use may have contributed to a reduction in eating,[10] and the switch in the antipsychotic to aripiprazole may have been instrumental in such a significant weight reduction, since aripiprazole is weight neutral and olanzapine is known to facilitate weight gain in patients.

To our knowledge, this is the first reported case of aripirpazole's effect on cannabis use. More research is needed to establish the benefits of aripiprazole in regard to cannabis. Some dual diagnosis patients may benefit from aripiprazole, which may reduce craving for and use of cannabis.

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References

1. Ujike H, Morita Y: New perspectives in the studies on endocannabinoid and cannabis: cannabinoid receptors and schizophrenia. J Pharmacol Sci 2004; 96:376–381
2. Travis MJ, Burns T, Dursun S, et al: Aripiprazole in schizophrenia: consensus guidelines. Int J Clin Pract 2005; 59:485–495
3. Beresford TP, et al: Aripiprazole in schizophrenia with cocaine dependence: a pilot study. J Clin Psychopharmacol 2005; 25:363–366
4. Pilla M, et al: Selective inhibition of cocaine-seeking behaviour by a partial dopamine D3 receptor agonist. Nature 1999; 400:371–375
5. Kenna GA, McGeary JE, Swift RM: Pharmacotherapy, pharmacogenomics, and the future of alcohol dependence treatment, part 2. Am J Health Syst Pharm 2004; 61:2380–2388
6. Kenna GA: Rationale for use of aripiprazole for alcohol dependence treatment. Drugs Future 2003; 28:1227–1235
7. Warsi M, et al: Aripiprazole reduces alcohol use. Can J Psychiatry 2005; 50:244
8. McEvoy JP, et al: Haloperidol increases smoking in patients with schizophrenia. Psychopharmacology (Berl) 1995; 119:124–126
9. Siris SG: Pharmacological treatment of substance-abusing schizophrenic patients. Schizophr Bull 1990; 16:111–122
10. Kirkham TC: Endocannabinoids in the regulation of appetite and body weight. Behav Pharmacol 2005; 16:297–313

Clinical Correlates of Personality Changes Associated With Traumatic Brain Injury

To the Editor: Traumatic brain injury (TBI) is frequently complicated by alterations in temperament and character that have adverse consequences for day-to-day living, manifesting as poor decision-making, interpersonal problems, communication problems, and often overall poor quality of life.[1] Max et al.[2] have reported extensively on the correlates and predictors of personality changes after traumatic brain injury in children, but there is scant mention in the literature on adults. In this report, we describe the results of a preliminary study of the clinical correlates of personality change following traumatic brain injury in adults.

Analysis

Data are from a retrospective chart review of 54 subjects with closed head injury enrolled in an outpatient neuropsychiatry brain injury clinic. Patients with depressed skull fractures were excluded.

Every patient was evaluated and followed by a clinic psychiatrist. The assignment of personality change due to a general medical condition (TBI) diagnosis was based