Patient Management Exercise

Experiencing Psychosis

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This exercise is designed to test your comprehension of material presented in this issue of FOCUS as well as your ability to evaluate, diagnose, and manage clinical problems. Answer the questions below, to the best of your ability, on the information provided, making your decisions as you would with a real-life patient.

Questions are presented at "consideration points" that follow a section that gives information about the case. One or more choices may be correct for each question; make your choices on the basis of your clinical knowledge and the history provided. Read all of the options for each question before making any selections. You are given points on a graded scale for the best possible answer(s), and points are deducted for answers that would result in a poor outcome or delay your arriving at the right answer. Answers that have little or no impact receive zero points. At the end of the exercise, you will add up your points to obtain a total score.

Case Vignette

Robert is a 23-year-old male who was brought in to see you by his parents. They set up the appointment because they reported "he's been acting so unlike himself." Over the phone they indicated that their son had dropped out of college in his senior year "after being a Dean's List student until his last semester" and had been living with them in their basement for nine months since then. The precipitating event for the evaluation was when Robert smashed his brand new tablet computer, because some unspecified *"THEY"* had "gotten control of it," after he had saved up for the purchase for over six months.

When Robert came in for the evaluation, he related a narrative that he had done well in his college classes in his first years as a physics major, but had become increasingly worried at the start of his senior year that "something weird was going on" between the campus ROTC and the professors in the physics department. "I couldn't put my finger on it exactly, but Professor Thompson, my advisor, seemed to be working on a project for the Army, and students in the ROTC were recruiting students to be guinea pigs. He had developed an electromagnetic soliton pulse generator, supposedly to transmit energy over distances, but really it could be used to manipulate a person's behavior from afar."

Because of his fears that his ROTC classmates were especially interested in recruiting *him* to be a subject in this testing, and that his advisor was a part of the project, he avoided going to classes in the science buildings on campus or near the ROTC building near the athletic facilities. He eventually stopped going to classes altogether and dropped out due to failing grades in his courses.

In the time since leaving school, he has been living in his parents' home, in a finished basement they had made into an apartment for him (as it had a kitchenette area and its own bathroom). "My parents cut me some slack because the economy is so bad, and the truth is I get overwhelmed

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In the past 5 years, Dr. Cook has received grant support from Aspect Medical Systems/Covidien, Cyberonics, Lilly, the National Institutes of Health, Neuronetics, NeoSync, Novartis, Pfizer, Seaside Therapeutics, and Sepracor, as Principal Investigator or Co-Investigator; has served as an adviser or consultant to Ascent Media, Bristol-Myers Squibb, Cyberonics, Lilly, Neuronetics, NeuroSigma, Pfizer, Scale Venture Partners, and the U.S. Departments of Defense and Justice; and has spoken on behalf of Bristol-Myers Squibb, CME LLC, Medical Education Speakers Network, Neuronetics, NeuroSigma, and Wyeth. Dr. Cook's biomedical device patents are assigned to the University of California. He has been granted stock options in NeuroSigma, the licensee of some of his inventions. From 1994–2008 he served on the Steering Committee on Practice Guidelines of the APA, and its Executive Committee from 2002–2008.

easily and really couldn't handle a full-time job right now." He had been working part-time at a local computer gaming parlor, where high school and college students paid to use customized, high-end "gaming" computers by the hour, to engage in multiplayer online games. Initially this had been a good fit, as he had described himself as having been a "computer geek" since junior high school; as time went on, he became increasingly worried that some sort of computer virus was surreptitiously controlling the webcam cameras attached to the machines at work so that the military could keep him under surveillance. About six months prior to this assessment visit, he had begun wearing what he termed a "Jedi cloak" with a hood to hide his face from the cameras; the patrons at the gaming parlor had started calling him "Obi-Wan," which he admitted he enjoyed, as he had been a fan of the Star Wars films for years. Overall, however, he reported having become rather socially withdrawn and apathetic, with loss of interest in accomplishing any significant goals. While he does little in terms of recreational pursuits, he indicated that he enjoys pleasant activities "about as much as ever."

Upon pressing for more information about his high school and college years, he admitted that he had begun smoking marijuana in high school, perhaps one or two joints over a weekend, usually with friends, as a way to be more relaxed and social. In college he initially had only smoked about once a month, but in the summer before his senior year, he had a summer job in the San Jose, California area, and had begun more frequent use in the context of a roommate who had a "medical marijuana" card and a large supply which he was happy to share with the patient.

Consideration Point A

At this point in your evaluation, the diagnosis which seems most appropriate for this patient would be

A1.—— Major Depressive Disorder, single episode, with psychosis
A2.—— Bipolar Disorder, depressed phase
A3.—— Adjustment Disorder, related to familial pressures around dropping out of school
A4.—— Substance induced thought disorder
A5.—— Schizophrenia, paranoid

Vignette continues

As you inquired more about his use of substances more recently, he endorsed that, until four months ago, he smoked "about a joint a day" as a way to "relax and chill out" from the stress of being under surveillance. He reported that, four months ago, he read an online story somewhere about "nanobots" that had been put into marijuana by the government as a way to track people, and he abruptly became abstinent after he thought he had seen some nanobots crawling around in a joint he was about to smoke. Since then, he has tried to use yoga as a way to manage his stress instead of marijuana, and he even went to a local holistic wellness center to try a class in "mindfulness meditation;" he found that he was "way too wound up" when he tried to observe his thoughts in that program, and dropped out after the first class. Even as recently as the current week, he believed he saw some nanobots scurrying behind the computer monitor in his bedroom, which "freaked me out a bit, but when I looked for them with a brick in my hand to crush them, they had gotten away."

You rounded out your structured clinical assessment and determined that he was sleeping soundly from about 1 a.m. to 8 a.m. every night with good reliability, that he described his energy as "low to normal," that he had little drive to do anything other than play video games, and that he did have some psychic anxiety (which he attributed to being "tracked" all the time) but no panic attacks or somatic symptoms of anxiety. He denied any traumatic experiences in the past or current PTSD symptoms. He tried to relate a story about something that had happened when he was a sophomore, with a disorganized tale about working late in the physics laboratory and some "electrical discharges" that ran between a static electricity generator and his hands, but he stopped himself in the middle of the story and abruptly changed the topic as his eyes darted about the room for a moment.

In reviewing the medical history, Robert reported he had rheumatic fever as a child after a "very bad strep throat," but had minimal mitral valve damage as the only known sequella. When you evaluated him, he reported taking no medications and that he had no drug allergies.

Socially and developmentally, Robert reported smoking "a cigarette a day" of tobacco and drinking alcohol "almost never." He was the second of two children born to his mother and father, the product of a full-term uneventful pregnancy, and raised by his parents; his father had been previously married and widowed, with three children from that union, and had been 58 years old when the patient was born. His father was a Vice Chair in the Department of Mathematics at the university where Robert had been enrolled.

As to family history, Robert reported his parents were generally physically and emotionally healthy. His older sister was described as a "math nerd" who was engaged in "some sort of quantitative modeling" for a hedge fund in Manhattan, and he thought his three half-siblings were alive and well and living

in the Pacific Northwest, but had little contact with them. He thought that no one in his family had experienced the sorts of "stressful experiences" that he had, though he recalled a family tale that perhaps a paternal great grandmother had died in an "asylum" long before he was born.

On exam, he was pleasant and generally cooperative with the interview, casually attired, with moderate attention to grooming. There was mild psychomotor slowing noted. Eye contact was mixed. Speech of was normal rate and volume, with slightly monotonous prosody. Affect was blunted and slightly anxious. Mood was endorsed as being "OK" most of the time. Thought process was frequently tangential and loose, but without frank derailment or flight of ideas. Thought content was without current suicidal or homicidal ideation or intent; he endorsed the paranoid delusions about his professor, the nanobots, and the webcams, and appeared to have had a hallucination about the static electricity in the physics laboratory. He may have been responding to internal stimuli when he abruptly stopped talking about the static electricity incident. Cognitively he was awake, alert, and oriented to self, place, date, and circumstances. Memory registration was intact with 3/3 stimuli, and recall after delay was 2/3 items spontaneously. For mental control, he could spell "WORLD" forward and backward without error. Presidents were recalled accurately for the past five office-holders. Similarities were concrete (apple/orange were "round;" chair/table were "made of wood;" watch/ruler "had numbers on them"). Insight was poor, in that he did not recognize being ill. Judgment currently was fair, in that he was willing to come for evaluation voluntarily and "would consider" treatment for "stress."

CONSIDERATION POINT B

In light of the additional information gained in your evaluation, the diagnosis which seems most appropriate for this patient would be

B1.—— Major Depressive Disorder, single episode
B2.—— Bipolar Disorder, depressed phase
B3.—— PANDAS syndrome ("Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal infections")
B4.—— Substance induced thought disorder
B5.—— Schizophrenia, paranoid

VIGNETTE CONTINUES

After careful consideration, you decided to discuss with Robert your observation that "it can be stressful when others may appear to want to take advantage of you," as in his worries about his professor and ROTC classmates, and that you were concerned that "sometimes a person's senses can play tricks on them" in terms of seeing the nanobots. You applauded his efforts to manage his stress through yoga and meditation, and suggested that you may be able to offer him some treatment that "has been shown in studies to be useful to people who have had experiences like he has" and that may put his "mind at ease from all those worries about surveillance."

CONSIDERATION POINT C

At this point, given the APA Practice Guidelines (1) and the more-recent findings of the NIMH's CATIE trial (2), what do you recommend?

C1.—— initiate pharmacotherapy with a second generation antipsychotic (SGA) to target hallucinations and delusions
C2.—— initiate pharmacotherapy with clozapine to target hallucinations and delusions
C3.—— initiate pharmacotherapy with methylphenidate to target his apathy
C4.—— inpatient hospitalization
C5.—— referral for social rhythm therapy

VIGNETTE CONCLUDES

Fortunately, he was willing to accept a trial of a second generation antipsychotic agent (2) after you described the risks, benefits, side effects, and indications for its use in his situation and he gave consent for that treatment. With it, he experienced some better organization to his thought process and a reduction in the paranoid delusions in the first month; nonetheless, even after three months of treatment, he was reluctant to consider simply going on campus near the ROTC offices, out of suspicion that something "bad" might happen to him. Dose titration led to some additional improvement without an unacceptable increase in sedation side effects. With physical exercise and attention to his diet, he was able to minimize any weight gain. You also referred his family to a "multifamily psychoeducational group therapy" program, to help them understand more about the illness, its treatment, the importance of adherence to treatment, and how best to be supportive of Robert (3, 4).

ANSWERS: SCORING, RELATIVE WEIGHTS, AND COMMENTS

CONSIDERATION POINT A

A1.—— 0 *Major Depressive Disorder, single episode.* The patient has not endorsed

either depressed mood or anhedonia, and does not meet DSM criteria for major depressive disorder (5).

A2.—— 0 *Bipolar Disorder, depressed phase.* The patient's history does not contain elements of depressive, manic, or hypomanic episodes and does not meet DSM criteria for any primary mood disorder (5).

A3.—— 0 *Adjustment Disorder, related to familial pressures.* This patient, like many, has experienced a set of stressful circumstances which occurred at the same time. The presence of a well-developed delusional scheme along with hallucinations is not consistent with an Adjustment disorder (5).

A4.—— +2 *Substance induced thought disorder.* Overt or covert substance use can lead to disorganized thought process, hallucinations, and/or delusions, either in intoxicated or withdrawal states (e.g. psychostimulants, alcohol) (5).

A5.—— +3 *Schizophrenia, paranoid.* The paranoid delusions, hallucinations, disorganized speech, and negative symptoms of avolition and apathy are compatible with a diagnosis of schizophrenia (5).

CONSIDERATION POINT B

B1.—— −3 *Major Depressive Disorder, single episode.* Again, the patient has not endorsed the presence of symptoms that would meet DSM criteria for major depressive disorder (5).

B2.—— −3 *Bipolar Disorder, depressed phase.* The patient's history does not contain elements of depressive, manic, or hypomanic episodes characteristic of DSM criteria for a primary mood disorder (5).

B3.—— −3 *PANDAS syndrome.* The "PANDAS" syndrome links exposure to group A beta-hemolytic streptococcal infection to the onset of obsessive-compulsive disorder or tic disorders (6) but not to schizophrenia.

B4.—— +2 *Substance induced thought disorder.* Overt or covert substance use can lead to disorganized thought process, hallucinations, and/or delusions, either in intoxicated or withdrawal states, or in some individuals, for persistent periods of time between episodes of use (5).

B5.—— +3 *Schizophrenia, paranoid.* The paranoid delusions, hallucinations, disorganized speech, and negative symptoms of avolition and apathy are compatible with a diagnosis of schizophrenia. The presence of positive symptoms even after a prolonged period of abstinence from marijuana suggests that this is likely a primary psychotic illness (5).

CONSIDERATION POINT C

C1.—— +3 *Initiate pharmacotherapy with a second generation antipsychotic (SGA).* The APA Practice Guidelines (1) indicate that an antipsychotic agent is an appropriate first line treatment for schizophrenia. The CATIE Trial (2) did not find support for the superiority of one drug over others.

C2.—— 0 *Initiate pharmacotherapy with clozapine.* Although clozapine is quite effective for patients with psychosis which has not responded to other medications ("treatment resistant" forms of the illness), it poses some risk of agranulocytosis, weight gain, sedation, and other side effects and is not commonly use as *initial* pharmacotherapy in psychosis (1).

C3.—— −2 *Initiate pharmacotherapy with methylphenidate.* While the psychostimulant agent methylphenidate can help with apathy in conditions such as major depression (4), medications of this class have a liability of exacerbating psychotic symptoms (6, 7).

C4.—— −1 *Inpatient 30 day program.* Inpatient care can be helpful when patients cannot be managed in a less restrictive environment, but this patient is willing to be seen and take medications and do therapy, so outpatient care would generally be seen as a more appropriate, least-restrictive, and more cost-effective next step.

C5.—— −2 *Referral for Social Rhythm Therapy.* Social rhythm therapy has been of great use to patients with bipolar disorder (8), but it is not an evidence-based practice in schizophrenia.

YOUR TOTAL

Decision Point	Score	Ideal Score
A		5
B		5
C		3
Total		13

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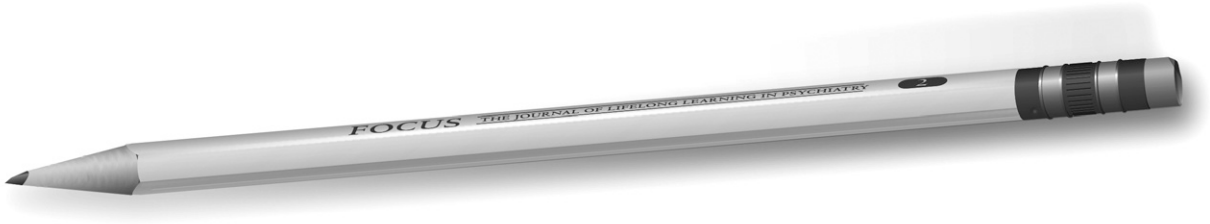

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