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In This Issue

This issue of the *Residents' Journal* begins with the Editor's request for interested residents to write pieces on the topic of Palliative Care and Psychiatry. The next three articles were solicited by this month's Guest Section Editor, Doreen M. Olvet, Ph.D., and examine the history of chlorpromazine (by Dr. Michael B. Grody), the use of standardized rating scales in the management of delirium (by Drs. Adam Lau and Arusha Farahani), and an adverse effect of deep brain stimulation (by Drs. Sarah Jane De Asis and Htet Htet Linn). An Introspection, Commentary, and monthly Test Your Knowledge questions round out the issue.

Editorial

Psychiatry, Palliative Care, and *The Residents' Journal*

Joseph M. Cerimele, M.D.
Editor-in-Chief

Palliative care focuses on managing symptoms of life-threatening illnesses, determining patient and family member treatment goals, and coordination of care among various settings. The general goals of palliative care are to alleviate suffering and to improve patient and family member quality of life. Palliative care is not equivalent to hospice care. Many palliative interventions co-occur with curative treatments. In differentiating nonhospice from hospice palliative care, Kelly and Meier (1) recently wrote that "hospice palliative care becomes appropriate when curative treatments are no longer beneficial, when the burdens of these treatments exceed their benefits, or when patients are entering the last weeks to months of life."

Complex psychiatric disorders and symptoms may occur during the course of palliative care treatment (2). Though these presentations may be commonly seen by the palliative care team, psychiatrists have expertise in managing depression, delirium, anxiety, family dynamics, substance use disorders, maladaptive personality traits, and behavioral complications of dementia (2, 3). Psychiatrists may be consulted directly by a palliative care service to manage these common presentations. Beyond serving as consultants, some psychiatrists are completing Board examinations in hospice and palliative care and subsequently directing hospital- or clinic-based palliative care programs. However, only 25 psychiatrists completed the Board examination requirements in hospice and palliative medicine in 2008 (3).

Palliative care services throughout the country may soon request more frequent psychiatric involvement in helping to coordinate patient care and in the diagnosis and treatment of psychiatric disorders. Furthermore, patients with severe mental illness who develop a terminal illness (e.g., the patient with schizophrenia with newly diagnosed metastatic nonsmall cell lung carcinoma) may benefit from integrated palliative and psychiatric care (4). Through these clinical and educational needs and through the call for further research, the current group of psychiatry residents may graduate into a field with many clinical openings and research opportunities in palliative care.

Resident physicians' interest in this field is growing, and some residents are even pursuing postresidency specialty training. *The Residents' Journal* would like to explore this topic, and we welcome manuscripts of all types addressing integrated palliative and psychiatric care as well as other matters at the interface of palliative medicine and psychiatry; for example, Review articles examining palliative care curriculum for psychiatry residents, Treatment in Psychiatry pieces focusing on end-of-life disorders and symptoms, Original Reports of ways to integrate care and improve communication among palliative care and psychiatry services, and Clinical Case Conference articles describing the hospital course of a patient co-managed by psychiatrists and palliative care physicians. We will look to publish several articles on this topic for the December 2010 issue on "Specialists in Psychiatry" and will continue to accept submissions during the remainder of the academic year.

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Peer Review

*We plan to initiate a trial peer review process for submitted manuscripts this winter, and I ask residents interested in participating to e-mail me (**joseph.cerimele@mssm.edu**).*

The Chlorpromazine Revolution Turns 60

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The introduction of clinically efficacious agents for the treatment of schizophrenia has led to the relief of symptoms for millions of patients. Although chlorpromazine was the first pharmacologic agent to relieve symptoms effectively, the origins of its birth represents a meandering and, at times, incidental course of events. As we approach the 60th anniversary of the drug's synthesis, the present article serves as a brief historical review of some of the events that led to one of the greatest advances thus far in psychiatric research and practice.

However integral this agent has become in the treatment of disorders residing in the deep alcoves of the mind, chlorpromazine's own origin lies in the more superficial terrain of the British dye industry in the latter half of the 19th century. In 1856, a purple dye called mauve was produced by William H. Perkin by the oxidizing of aniline, and soon many other compounds related to aniline were synthesized in order to reap the commercial benefits of the booming English dye business. By 1876, Heinrich Caro had synthesized methylene blue, a derivative of phenothiazine, a discovery that led to physician Robert Koch's identification of the tubercle bacillus. In 1891, Koch's pupil, the future Nobel laureate Paul Ehrlich, observed that methylene blue had a peculiar affinity for certain living cells and proposed that an agent that binds to certain cells might selectively destroy disease (1).

In addition to the discovery of the most effective antisyphilis drug of its time, Ehrlich discovered that methylene blue could be used as an effective treatment for malaria. In 1931, Schulemann synthesized a similar agent by altering a side chain, a phenothiazine salt that was successful against malaria infection (2). Even though the diethylaminoethyl derivative showed more antimalarial activity than methylene blue, it was too toxic to be used clinically. It wasn't until later, with the discovery of a new type of side chain, that the highly active and successful antimalarial drug quinacrine was produced.

During the Second World War, the allies developed their own program to find a new synthetic antimalarial agent, and in 1944, Gilman et al. (3) synthesized a group of phenothiazine derivatives that, unlike quinacrine, turned out not to have active antimalarial properties but was later found to have potent antihistaminergic effects. With the discovery of the effects of these new agents came the development of promethazine, a molecule with a similar chemical structure as phenbenzamine but more potent and with a longer duration of action, making it a valuable potentiating agent for anesthesia. It was the agent's pronounced sedating effects that would soon give birth to the first "typical" antipsychotic drug, chlorpromazine—its discovery heralding in the advent of the pharmacological treatment of severe mental illness.

In 1950, the French Navy surgeon Henri Laborit developed a form of anesthesia using a mixture of narcotic, sedating, and hypnotic drugs. Laborit had an interest in drugs that would prevent both presurgical anxiety and postoperative shock. He called this "hibernation" and referred to the mixture of the agents as a "lytic cocktail." Aware of the dramatic potentiating effects of promethazine, Laborit approached Rhône-Poulenc to manufacture a drug that diminished antihistaminergic but enhanced sedating effects. Already on a search for phenothiazine derivatives following the success of promethazine, Charpentier and colleagues synthesized chlorpromazine on December 11, 1950 by changing the location of the side chain nitrogen. Using the agent along with promethazine and an analgesic as part of his lytic cocktail, Laborit made the observation that surgical patients required a lower dose of analgesic and withstood the stress of surgery better with chlorpromazine. But most importantly, patients given chlorpromazine did not lose consciousness but rather became sleepy and showed an indifference to what was occurring around them, including their impending surgeries (4). The implications for the field of psychiatry were not lost on Laborit.

Laborit supplied chlorpromazine to two groups of psychiatrists in Paris: Hamon and colleagues at Le Val de Grâce and Pierre Deniker and colleagues at the Sainte-Anne clinic. Though the matter of which group of doctors was the first to administer the drug to psychiatric patients remains in dispute, Hamon, Parair, and Velluz are credited with the first reported case: a 57-year-old laborer who had been acting erratically, giving rambling political speeches, and assaulting strangers on the streets of Paris. Within 1 day of treatment with a small dose of chlorpromazine, the patient was calmer, and within 3 weeks he appeared perfectly normal and was subsequently discharged (5). In 1952, Rhône-Poulenc distributed chlorpromazine under the trade name Largactil, and in 1954, the U.S. company Smith Kline and French Laboratories bought the rights to the drug and it was released as Thorazine. At first, American psychiatrists were skeptical, thinking of this breakthrough in psychopharmacology as just another sedative. Pierre Deniker was enlisted by Smith Kline to spread the word of the success the drug had in France.

Chlorpromazine was a phenomenal hit at the state institutions, where the most resistant patients were housed. A collaborative study by the U.S. Veterans Administration involving close to 700 patients in 37 sites showed it to be significantly superior to promazine, phenobarbital, and placebo in reducing morbidity (6). Even before its efficacy had been definitively established, the effect of chlorpromazine was profound, as

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witnesses reported large decreases in the world's inpatient psychiatric population. The age of psychopharmacology had begun, and the search for other effective antipsychotic agents was on, an endeavor that—60 years later—continues to this day.

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Treatment in Psychiatry

The Use of Rating Scales in the Diagnosis and Management of Delirium

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Case — *Psychiatry is consulted to see a 72-year-old man admitted for emergency hip surgery following a fall. Upon admission, the patient is alert, oriented, and experiencing pain but with stable vital signs and laboratory results. He has no medical or cognitive problems. He undergoes emergency surgery and is given morphine. Two days later, he becomes paranoid, with visual hallucinations, and pulls his intravenous therapy lines while trying to leave the hospital because he believes that the staff has poisoned him. The staff reports that he is better during the day and worse at night and very distractible. The patient's collateral history confirms an acute change from his baseline mental state. He is evaluated by psychiatry and diagnosed with delirium.*

Question — *Which rating scales could be useful in diagnosing and treating patients with delirium?*

Introduction

Delirium is a complex neuropsychiatric syndrome common in all medical settings. It is characterized by an altered level of consciousness, cognitive impairment, and perceptual disturbance. Delirium is the most common psychiatric syndrome found in the general hospital setting and is associated with increased morbidity and mortality and prolonged hospital stay (1).

Measurement-based care is a system of patient care in which physicians use standardized scales to precisely and regularly assess patients' symptoms. For delirium, measurement-based care involves assessment for both diagnosis and monitoring of treatment.

Despite its high prevalence, delirium remains under-recognized by many clinicians. It has been shown that general, surgical, and intensive care unit clinicians have missed the diagnosis in 46% to 66% of patients (2, 3).

There have been a number of prospective studies evaluating the use of rating scales in diagnosing and managing delirium. Each rating scale is compared with DSM-IV-TR criteria for delirium, which is considered the gold standard (Table 1).

Table 1. DSM-IV Diagnostic Criteria for Delirium

1	Disturbance of consciousness affecting ability to focus, sustain, or shift attention.
2	Change in cognition (e.g., memory deficit, disorientation, language disturbance, perceptual disturbance) not better accounted for by a dementia.
3	The disturbance develops over a short period (usually hours to days) and tends to fluctuate during day.
4	The disturbance is a direct physiologic consequence of a general medical condition, intoxicating substance, medication use, or is multi-factorial.

Rating Scales Used for Diagnosing Delirium

There are two main types of rating scales for diagnosing delirium: those with categorical outcomes (delirium or no delirium) and those with continuous outcomes (delirium and a severity level or no delirium).

Categorical rating scales

1. **Confusion Assessment Method (CAM)** (4). This measure was developed in general medical patients. It takes 5 minutes to administer and evaluates the following four key features of delirium: onset and course, inattention, disorganized thinking, and altered level of consciousness.

2. A modified version of CAM is **CAM for the Intensive Care Unit (CAM-ICU)** (5). This measure can be used for patients who are unable to speak (e.g., mechanically ventilated patients). The assessment uses pictures and nonverbal prompts to evaluate the same four features evaluated in CAM.

Continuous ratings scales

1. The **Delirium Rating Scale (DRS)** was developed in 1988 and revised in 1998 (DRS-R-98) (6). This measure is a comprehensive delirium evaluation, with 13 items for severity, and has a score range of 0–46. It evaluates temporal onset, hallucinations, delusions, psychomotor behavior, cognitive status (including orientation and attention), physical disorders, sleep-wake cycle, and lability of mood. A cut-off score of 18 is suggested for diagnosing delirium. The assessment takes 10–15 minutes to administer.

2. **Memorial Delirium Assessment Scale (MDAS)** (7). This measure is used to screen for delirium in patients with advanced cancer. It has 10 items and evaluates perception, delusions, disorganization, cognitive status (including orientation and attention), psychomotor behavior, and sleep cycles, with scores ranging from 0–30. A score of ≥10 is indicative of delirium. The assessment takes 10 minutes to administer.

3. **Delirium Observation Screening Scale (DOSS)** (8). This measure is a 13-item scale and evaluates cognitive status (including orientation and attention), disorganization, psychomotor activity, hallucinations, and mood lability, with scores ranging from 0–13 and a suggested cut-off score of ≥3. The assessment takes 5 minutes to administer.

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4. **Mini-Mental State Examination (MMSE)** (9). MMSE is one of the most utilized cognitive screening tools. This measure has 30 items evaluating orientation, short-term memory, attention/concentration, language, reading, ability to follow instructions, and writing/copying ability. Scores range from 0–30, with no agreed cut-off score indicative of significant cognitive impairment. Due to the wide range of abilities, scores are not specific to delirium. The assessment takes 10 minutes to administer.

5. **Nurse Delirium Screening Scale (Nu-DESC)** (10). This measure evaluates the following five symptoms: disorientation, communication, behavior, hallucinations, and psychomotor retardation. Scores range from 0–10, with a suggested cut-off score of ≥2. The assessment takes 1 minute to administer.

Rating Scales Used in Delirium Intervention and Prevention Trials

Delirium rating scales have been used to measure and track the efficacy of treatments in managing delirium. A seminal study by Breitbart et al. (11) used MDAS to compare haloperidol, chlorpromazine, and lorazepam in managing delirium in AIDS patients. They found improvement in delirium severity with haloperidol and chlorpromazine but worsening with lorazepam.

A Cochrane review noted two adequately designed, randomized, controlled trials evaluating antipsychotics in managing delirium (12). The first trial, which utilized DRS, compared intramuscular haloperidol with oral olanzapine or placebo in delirium management. It showed that active medication was better than placebo at decreasing the duration and severity of delirium (13). A second study used CAM, DRS, and MDAS to evaluate the efficacy of oral risperidone versus oral haloperidol in managing delirium and showed a decrease in delirium with both interventions (14).

Also included in this Cochrane review was a delirium prevention study evaluating prophylactic antipsychotic use in patients undergoing hip surgery. The investigators used CAM for screening/diagnosis and DRS-R-98 for measuring severity. They found a decrease in delirium severity and hospital days in patients given intravenous haloperidol versus placebo but not in the overall incidence of delirium. Another delirium prevention study evaluated prophylactic risperidone use in patients undergoing cardiac surgery (15). The investigators used CAM-ICU and reported a decrease in delirium incidence for those given oral risperidone versus placebo but no significant difference in th e length of hospital or intensive care unit stay.

Conclusion

Delirium is a serious condition, which often goes unrecognized. Rating scales are a key component of measurement-based care and have proven to be invaluable in standardizing the diagnosis and treatment of delirium. The scales discussed in this article also serve as primary outcome measures in clinical trials; therefore, it is essential that residents be familiar with them when interpreting original research.

Drs. Lau and Farahani are both fourth-year Chief psychiatry residents at Zucker Hillside Hospital, North Shore-Long Island Jewish Healthcare System, Glen Oaks, New York.

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Note From the Editor:

For assessing infant delirium in pediatric critical care settings, see the article by ***Silver et al.*** *in this month's issue of* The American Journal of Psychiatry.

Case Report

Personality Changes After Deep Brain Stimulation

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In 2009, the Food and Drug Administration (FDA) approved deep brain stimulation for the treatment of obsessive-compulsive disorder (OCD), under the Humanitarian Device Exemption Program, following some reports showing beneficial effects in this disorder (1). Deep brain stimulation has also been reported to be beneficial for treatment-resistant depression (2), Tourette's syndrome (2), eating disorders (3), and severe tardive dyskinesia (4). However, the most frequent use of this procedure continues to be in the treatment of Parkinson's disease, providing significant improvement in motor symptoms, including rigidity, tremor, bradykinesia, dyskinesia, postural instability, and motor fluctuation. It also has led to the improvement of scores on the Parkinson's Disease Questionnaire–39 and Unified Parkinson's Disease Rating Scale, Part III (5). However, deep brain stimulation has been associated with complications that may be surgery-related (infection, hemorrhage), hardware-related (device malfunction, lead migration), or stimulation-related (depression, dyskinesia) (6). In the present report, we present the case of a patient with Parkinson's disease who received deep brain stimulation and subsequently developed psychiatric complications.

Case — *"Mr. Z" was a 53-year-old man with a remote history of opiate dependence and severe medication-refractory Parkinson's disease (leaving him wheelchair-bound) who underwent bilateral implantation of electrodes to the subthalamic nuclei in February 2008. Prior to deep brain stimulation, the patient had mild depression but had never been suicidal. He was a good father and husband to his family and was able to maintain a steady job. After the procedure, there was marked improvement of speech and motor symptoms, with the patient again being able to walk, to drive, and to function independently. However, he abruptly developed personality changes, leading to increased use of opiate analgesic medication and frequent lying, spending sprees, stealing, aggression, confrontations, neglect of family and work responsibilities, and a general lack of remorse independent of opiate use. These behaviors were initially interpreted as an effort to compensate for his Parkinson's disease and in response to improved ambulation. He attempted suicide 1 year later by injection of morphine and hydromorphone and was subsequently admitted to the hospital, where he was started on valproic acid and escitalopram. Neurosurgery and Neurology were consulted, eventually adjusting his deep brain stimulation parameters. The patient's psychiatric symptoms began to remit, although he exhibited some slowing of his movement and speech. He was subsequently discharged and followed as an outpatient.*

Discussion

Deep brain stimulation generally involves placement of two electrodes (7) on the globus pallidus, subthalamic nucleus, or thalamus. High-frequency stimulation results in a hyperpolarizing blockade of the cells (6). It was initially introduced in the 1950s for treatment of rigidity and pain. The subthalamic nucleus and globus pallidus are the most frequent targets in treating Parkinson's disease. It was found to be safe, effective, and stable in the treatment of this disorder in 1987, eventually receiving FDA approval in 2002. Among Parkinson's disease patients who undergo this procedure, 98.2% experience improvement in motor symptoms (8). It also has been proven to be an effective treatment for other movement disorders, such as essential tremor and dystonia.

Deep brain stimulation is indicated for patients with medication-refractory disorders. Our patient was a good candidate because he did not have contraindications to deep brain stimulation placement, which include poor health, dementia, uncontrolled anxiety, prominent mood disorder, severe atrophy, and extensive white matter disease.

Deep brain stimulation targeting the subthalamic nuclei has consistently yielded improvements in rigidity, bradykinesia, postural stability, and gait in Parkinson's disease. It can significantly decrease or even eliminate the need for dopaminergic treatment. Hypomanic symptoms may be an early stimulator-induced side effect (7). There are at least five case reports of impulse control disorders characterized by pathological gambling, excessive shopping, hypersexuality, and aggressive behavior (9, 10). Additionally, in a study of 200 patients, 25% developed depression and 3% developed suicidality (9). Other reports have noted psychosis, cognitive decline, and anxiety (8). Deep brain stimulation-treated patients have higher suicide rates compared with the general population, which may be attributable to postoperative depression and impaired impulse regulation (9). These phenomena may be related to overstimulation of the structures adjacent to the subthalamic nuclei.

Our patient developed significant changes in personality and mood, which subsequently reversed with adjustment of the deep brain stimulator settings and initiation of psychotropic medications. Some studies have suggested that the risk factors for these complications are male sex, young age at Parkinson's disease onset, and history of substance abuse, all of which fit the profile of our patient (10). Physicians should be aware of possible serious psychiatric side effects of this treatment method and be prepared to manage them.

The neuropsychiatric effects of bilateral subthalamic nuclei stimulation have not been consistent, though it has been re-

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ported that this stimulation method can markedly change behavior in some patients. It is important that we are vigilant as physicians in monitoring, both pre- and postoperatively, for the presence or development of psychiatric symptoms, including mood disorders, suicidality, and changes in personality and behaviors.

Dr. De Asis is Chief Resident and Dr. Linn is a third-year resident in the Adult Psychiatry Residency Program at New Jersey Medical School, Newark, N.J.

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Note From the Editor:

Deep brain stimulation for managing treatment-resistant depression will be featured in the Clinical Case Conference by Holtzheimer et al. in the upcoming December issue of The American Journal of Psychiatry.

Eradicating Mental Health Stigma: Strategies for Mental Illness Awareness Week 2010

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October 3–9, 2010, is Mental Illness Awareness Week, which is a great opportunity to help eradicate the stigma that patients with mental illness face each day. Stigma begins as soon as a patient is labeled with a disease. Although some former and current psychiatric practices perpetuate stigma, there are many things that can be done to help patients living with mental illness.

The first step is realizing that stigma is a true barrier to achieving rehabilitation. The U.S. Surgeon General (1) has indicated that stigma is a major obstacle to people seeking help when they need it, and a recent Surgeon General's report stated that "more tragically, [stigma] deprives people of their dignity and interferes with their full participation in society (1)." Certainly, anything inhibiting a connection with society must be eliminated before patients can achieve recovery.

Although stigma has such an influence on perceptions and behaviors throughout society, research shows that there is still much that can be done to relieve this burden. One study randomly assigned patients to participate in one of the following four stigma altering workshop groups: education, contact, protest, or comparison. The results suggested that education and contact led to attitude change, while protest yielded no improvement, and relative to the other groups, social contact seemed to improve both public perceptions and recollections of persons with mental illness (2).

This sentiment is echoed by Pettigrew and Tropp (3), whose meta-analysis of 696 subjects revealed that intergroup contact was associated with lower levels of prejudice. Social contact between members of a stigmatized group and members of the general public is one of the most promising strategies for reducing stigma and discrimination (3). Thus, having patients reach out to the general public can not only benefit their own recovery but the recovery of others living with mental illness. Some simple suggestions include encouraging patients to participate in advocacy events led by their local National Alliance on Mental Illness chapter. For events already in place or for ideas on how to start new events, visit www.nami.org/template.cfm?section=mental_illness_awareness_week.

There are many quick means of exploring options to advocate against stigma, beginning with basic education. Visit the Substance Abuse and Mental Health Services Administration website for free handouts to give to patients, their families, or your coworkers (www.samhsa.gov/).

Dr. Turner is a first-year psychiatry resident at the University of Florida, Gainesville. Florida.

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3. Pettigrew T, Tropp L: A meta-analytic test of intergroup contact theory. J Pers Soc Psychol 2006; 90:751–783

Note From the Editor:

For a report on how public reactions to schizophrenia, depression, and alcohol dependence have changed, see the AJP in Advance article (published online ahead of print) by ***Pescolido et al.***

Introspection

Broca's Blunder

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While sipping my early morning coffee, I pondered the mind's mysteries. At the time, a radio report played about a recently published study in Science (1), which found that it takes about one-half second to transform something we think into something we say. This study involved the placement of brain monitoring electrodes on regions such as Broca's area (the left-sided language center of the brain), which measured the time it took the brain to recognize a word, make a grammatical decision, and formulate a verbal response. As I listened, my lifelong love of words coalesced into scientific bliss. Little did I know that later that morning I would be struggling to control my very own neuronal misfiring.

I was sitting outside the office—waiting in the usual preinterview fashion—trying to remain calm as I mentally rehearsed the upcoming meeting. I was scheduled to meet with a prominent faculty member to discuss potential research opportunities during the course of my residency training. I tried not to think about how my future research might depend on a good first impression. The interview started out well, with a firm handshake that bridged friendly introductions. The research we discussed was everything I was looking for, and I desired to say more than simply "uh-huh." At one point, I ever-so-eagerly wanted to make my feelings known, and I boldly blurted, "That sounds fantabulous." Yes, I actually said "fantabulous" within the walls of this hallowed institution, and, more embarrassingly, within range of the ears of this august researcher.

I could only look on in vain as I watched the molecules of air as they made their anxious journey toward his eardrum and then, one-half second later, into his conscious mind. I looked at him earnestly for his reaction to my dissonant note. I thought to myself, "Please smile and allow me to laugh about this Broca's blunder!" But nothing. No reaction. Maybe he heard "fantastic." I was hopeful that he had heard "fabulous." Possibly, he too had heard the radio broadcast and already concluded that my brain must have been so awestruck by his research that quite naturally my only verbal response could be this inchoate uttering.

Needless to say, I remained free from using enthusiastic rejoinders for the remainder of the interview but was still suffering some mental anguish. One Jungian perspective on my mistake might be that my listening to the radio that morning and my subsequent mysterious word slip was synchronous and meaningfully tied me to the collective unconscious. Freud might suggest that my Iowan farm upbringing was unsuccessfully repressing my "fantabulously" sexual self-fulfilling Id. However, the fathers of psychiatry might attempt to classify my neologism; I realized I was all alone to face my word crime. One thing is certain: it would be many years before I would rule my restless Broca and become the controlled intellectual I sat before that day.

Dr. Delaney is a second-year psychiatry resident at Harvard Longwood Psychiatry Residency Program, Boston, Massachusetts.

Reference

1. Sahin NT, Pinker S, Cash SS, Schomer D, Halgren E: Sequential processing of lexical, grammatical, and phonological information within Broca's area. Science 2009; 326:445–449

Commentary

The Glue: The Importance of Eliciting the Context of a Psychiatric Symptom

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His outpatient medication list reads like the table of contents in *Stahl's Essential Psychopharmacology*.

"Mr. C," the 50-year-old man who the treatment team requested I evaluate, was prescribed lithium, quetiapine, citalopram, clonazepam, and buspirone. My mission—to review Mr. C's medications and make recommendations about an appropriate psychopharmacological approach—initially appeared to be a straightforward one. However, as I delved into his records, I quickly found myself sinking into a sea of diagnoses. Over the past several years, he had been evaluated by multiple providers and diagnosed with five different mood disorders, two anxiety disorders, a psychotic disorder, and several substance use disorders and subsequently prescribed multiple medications. Despite this, he continued to report depression, hallucinations, flashbacks, and self-mutilation.

After several hours of detective work, all that I amassed was a pile of diagnoses, a plethora of prescription psychotropics, and a lack of insight into why the patient had been assigned any of these disorders. Feeling overwhelmed, I sought the advice of my psychodynamically oriented attending. "Find the glue," she said. The glue, she elaborated, were those critical, life defining events that provided crucial information about the context in which psychiatric symptoms develop. Glue could be obtained through careful, artful interviewing and would be missed if one only inquired about symptoms and not their setting. She referenced her patient, "Mr. X," who had been labeled with paranoid schizophrenia for 30 years. Like Mr. C, he too had seen multiple providers, all of whom inquired about his symptoms, but none of whom inquired about their context. Mr. X's psychosis developed at age 18, after repeatedly being sodomized while incarcerated. This "paranoid schizophrenic," was actually a severely depressed man with psychosis and posttraumatic stress disorder. My attending suspected that, like Mr. X, there were vital contextual clues missing from Mr. C's story. Armed with her words of wisdom, I embarked on a new mission: to find Mr. C's glue.

Mr. C sadly relayed how his symptoms began after serving in the military. He witnessed and committed unspeakable acts and morphed from a fun-loving person into a depressed man with intrusive memories, flashbacks, anxiety, insomnia, and intense anger. When heroin could no longer adequately numb him, he began picking incessantly at his skin. The "voice" he reported hearing was actually him conversing with his deceased uncle and grandmother, two of the few people who had loved him. After their deaths, he further deteriorated.

With this glue, I pasted together Mr. C's story. His symptoms no longer seemed disjointed or diagnostically challenging. I confidently revised his diagnosis, recommended that the treatment team begin tapering several medications, and advised referral for outpatient psychotherapy.

DSM is a wonderful tool. It provides us with standardized criterion that assists us in formulating diagnoses. However, we must remember that our patients are more than just a constellation of symptoms and take the time to unearth the context in which their symptoms arise. Failure to do this places us at risk of misdiagnosing and mismanaging our patients. We must find the glue.

Dr. Seawell is a third-year psychiatry resident at Wayne State University, Detroit.

TEST YOUR KNOWLEDGE

In preparation for the PRITE and ABPN Board examinations, test your knowledge with the following questions.
(answers will appear in the next issue)

***Questions pertain to the Case Report in this issue by De Asis and Linn.**

1. The FDA has approved deep brain stimulation for:
A. Severe impulse control disorder
B. Severe obsessive-compulsive disorder
C. Treatment-resistant mood disorders
D. Anorexia nervosa
E. Severe tardive dyskinesia

2. Patients who undergo deep brain stimulation for treatment-refractory Parkinson's disease have been reported to develop changes in personality and mood, including which of the following:
A. Suicidality
B. Depression
C. Aggressive behavior
D. Mania
E. All of the above

ANSWERS

Answers to September Questions. To view the September Test Your Knowledge questions, go to http://ajp.psychiatryonline.org/cgi/data/167/9/A26/DC2/1.

Question #1
Answer: C. Margaret Mahler
Margaret Mahler was known for her work in developing the separation-individuation theory of child development, which consists of the following three subphases: hatching, practicing, and rapprochement. Rapprochement typically occurs between the ages of 15–24 months and is seen as the child acquires the ability to physically separate from the mother (i.e., walk) yet continues to seek reassurance while exploring the world (1).

Reference

1. Mahler MS, Pine F, Bergman A: The Psychological Birth of the Human Infant. New York, Basic Books, 1975, p 187

Question #2
Answer: A. Autonomy versus Shame and Doubt
Erik Erikson initiated the psychosocial development theory of the eight ages of man, in which he eloquently described the essential tasks individuals must master in their psychosocial development (1). The initial stage is trust versus mistrust and occurs in infants. This is followed by autonomy versus shame and doubt and typically occurs in toddlers who have begun their attempts at self-sufficiency. If this is encouraged by parents, then the toddler will begin to develop a sense of autonomy. If parents are restrictive or deter the toddler's early attempts at self-sufficiency, he or she may develop shame and doubt. The stage of initiative versus guilt occurs during the preschool years (ages 4–6) and is followed by industry versus inferiority (ages 7–11 [childhood]) and identity versus role confusion (ages 12–19 [adolescence]).

Reference

1. Erikson E: Childhood and Society. New York, Norton, 1950

Question #3
Answer: B. Object permanence
Jean Piaget studied cognitive development and described the following four stages: sensorimotor, preoperational thought, concrete operations, and formal operations. According to Sadock and colleagues (1), the "critical achievement of this (sensorimotor) period is the development of object permanence" and once attained "marks the transition from the sensorimotor stage to the preoperational stage." Object permanence indicates that an infant is able to maintain a mental image of an object, even when it is not directly in front of him (1). The infant will begin searching for the toy if it is not directly in front of him, as he is aware that it is still there. This differs from object constancy, a term coined by Margaret Mahler, which is achieved when a child recognizes that his mother has a separate identity and is a separate individual (2). The child then develops an internalization of the mother that provides an unconscious level of support.

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1. Sadock BJ, Kaplan HI, Sadock VA: Kaplan and Sadock's Synopsis of Psychiatry Behavioral Sciences, Clinical Psychiatry, 10th ed. Philadelphia, Lippincott Williams and Wilkins, 2007, p 133
2. Mahler MS, Pine F, Bergman A: The Psychological Birth of the Human Infant. New York, Basic Books, 1975, p 110

We are currently seeking residents who are interested in submitting Board-style questions to appear in the Test Your Knowledge feature. Selected residents will receive acknowledgment in the issue in which their questions are featured. Submissions should include the following:
1. Two to three Board review-style questions with four to five answer choices.
2. Answers should be complete and include detailed explanations with references from pertinent peer-reviewed journals, textbooks, or reference manuals.
***Please direct all inquiries and submissions to Dr. Fayad; fayad@ufl.edu.**

Author Information for *Residents' Journal* Submissions

The Residents' Journal accepts manuscripts authored by medical students, resident physicians, and fellows; manuscripts authored by members of faculty cannot be accepted.

1. **Commentary:** Generally includes descriptions of recent events, opinion pieces, or narratives. Limited to 500 words and five references.

2. **Treatment in Psychiatry:** This article type begins with a brief, common clinical vignette and involves a description of the evaluation and management of a clinical scenario that house officers frequently encounter. This article type should also include 2-4 multiple choice questions based on the article's content. Limited to 1,000 words and 10 references.

3. **Clinical Case Conference:** A presentation and discussion of an unusual clinical event. Limited to 750 words and five references.

4. **Original Research:** Reports of novel observations and research. Limited to 1,000 words, 10 references, and two figures.

5. **Review Article:** A clinically relevant review focused on educating the resident physician. Limited to 1,000 words, 10 references, and one figure.

6. **Letters to the Editor:** Limited to 250 words (including references) and three authors. Comments on articles published in the Residents' Journal will be considered for publication if received within 1 month of publication of the original article.

7. **Book Review:** Limited to 500 words.

Abstracts: Articles should not include an abstract.

References: Use reference format of *The American Journal of Psychiatry* (http://ajp.psychiatryonline.org/misc/Authors_Reviewers.dtl).

Upcoming Issue Themes

Please note that we will consider articles outside of the theme.

December 2010
Section Theme: Specialists in Psychiatry
Guest Section Editor: Jay Augsburger, M.D.;
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January 2011
Section Theme: Internal Medicine Skills and Psychiatry
Guest Section Editor: Rosalyn Womack, M.D.;
womackr@uthscsa.edu

February 2011
Section Theme: Eating Disorders
Guest Section Editor: Mike Rosen, M.D.;
drmikerosen@gmail.com

March 2011
Section Theme: The On-Call Experience
Guest Section Editor: Monifa Seawell, M.D.;
mseawell@med.wayne.edu

We invite residents who are interested in participating as Guest Section Editors to e-mail Dr. Cerimele at joseph.cerimele@mssm.edu. If you are interested in contributing a manuscript on any of the themes outlined, please contact the Section Editor for the specified month.