LESSONS LEARNED AT THE INTERFACE OF MEDICINE AND PSYCHIATRY

The Psychiatric Consultation Service at Massachusetts General Hospital (MGH) sees medical and surgical inpatients with comorbid psychiatric symptoms and conditions. Such consultations require the integration of medical and psychiatric knowledge. During their thrice-weekly rounds, Dr. Stern and other members of the Psychiatric Consultation Service discuss the diagnosis and management of conditions confronted. These discussions have given rise to rounds reports that will prove useful for clinicians practicing at the interface of medicine and psychiatry.

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Fear of Medical Illness: Differential Diagnosis, Workup, and Treatment

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Have you ever faced a patient with an irrational fear of medical illness? Have you ever wondered what conditions may cause a patient to have such a fear? Have you ever puzzled over what type of workup to pursue and what types of treatment are available? If so, then the following case vignette of a man with an intense fear of a serious illness will provide a forum for the answers to these and other questions related to the workup and management of such symptoms.

Case Presentation

Mr. A, a 45-year-old single man with an unremarkable medical history, was brought to the hospital after making a suicide attempt. Over the prior month, Mr. A had become convinced that he had contracted acquired immunodeficiency syndrome (AIDS) because of new-onset symptoms (e.g., abdominal pain, low energy, frequent urination, and dizziness). Two days before his suicide attempt, he told his sister that he was dying of AIDS; he was so upset over his conviction that he had AIDS, and the stigma associated with it, that he decided to hang himself. He was found with a noose around his neck by a neighbor, who convinced him to seek medical attention.

In the emergency department, Mr. A was convinced that he had AIDS. He believed that he contracted AIDS 3 months earlier from a woman at a massage parlor who massaged his genitals and may have placed her finger in his rectum. Extremely ashamed about this incident, he thought that he deserved to die. Mr. A avowed that he had never had unprotected sex (with either men or women) and that he had no history of intravenous drug use or blood transfusions.

Although Mr. A had never before attempted suicide, he admitted to more than 10 years of low-grade depressed mood. He was often critical of himself and felt that he had "failed at life" (as he had never married, had children, or been promoted at work). Given his ongoing thoughts of suicide, he was admitted to the inpatient psychiatric service.

Upon arrival to the unit, Mr. A paced and was agitated. He would not let staff come close to him unless they were wearing gowns and gloves, as he was afraid that he would transmit AIDS to them. He repeatedly asked to have his vital signs checked; these remained normal. Bedside cognitive screening results were normal, and results of his physical examination were unremarkable.

What Medical Conditions Are Often Mistaken for Psychiatric Illness?

First, it is important to ensure that even nonspecific or vague physical symptoms are not due to a true medical illness (e.g., anemia, hypothy-

Table 1. Psychiatric Diagnoses Associated With Somatic Fears

Diagnosis	Delusions	Physical Symptoms	Mood Symptoms
Delusional disorder	++ Nonbizarre Function not markedly impaired Symptoms last at least 1 month	+/– Not common unless somatic delusional disorder	+/– Duration of mood symptoms is brief relative to the delusions
Major depressive disorder with psychotic features	+ Usually mood-congruent, nonbizarre Only during mood episode	+/– Can have associated somatic symptoms	++ Meets criteria for major depressive disorder
Hypochondriasis	– Intense fears are not of delusional intensity	+ Usually with associated physical symptoms	+/– Can be secondary, fears can occur without mood symptoms
Monosymptomatic hypochondriasis	+/– Limited to 1 disease/organ system Delusional or near-delusional intensity	+ Often with associated symptoms	+ Common, often secondary

Symbols: – = not present, +/– = sometimes present, + = usually present, ++ = always present.

roidism or hyperthyroidism, diabetes mellitus, and metabolic disturbances, especially hyponatremia and hypercalcemia). A host of conditions (such as multiple sclerosis, Lyme disease, systemic lupus erythematosus [SLE], and hyperparathyroidism) present with ill-defined symptoms; these are often difficult diagnoses to make. Moreover, when symptoms persist and defy diagnosis, some patients fear the worst and assume an insidious course from a progressive condition. These and other less common syndromes should be considered when disparate symptoms arise. Multiple sclerosis often presents with focal sensorimotor deficits, and patients with Lyme disease often give a history of diffuse rash and myalgias; report of exposure to tick-infested areas or evidence of a target skin lesion may not be forthcoming. Symptomatic hyperparathyroidism can cause nephrolithiasis, bone pain, weakness, nausea, vomiting, and constipation, and SLE can cause cutaneous symptoms, fever, and arthritis.

Second, medical syndromes associated with acute psychosis should also be ruled out, especially when psychosis arises after the age of 40. Psychotic symptoms can arise in the context of delirium (typically accompanied by altered consciousness or disorientation) or be caused by drug intoxication, drug withdrawal, or chronic use of illicit substances, among other etiologies. Conditions that may present with psychotic symptoms in middle age or late life, including Huntington's disease (especially common in those with a family history of Huntington's disease and abnormal movements), Parkinson's disease (with tremor or other associated motor symptoms), Wilson's disease (with dystonias or hepatic abnormalities), and acute intermittent porphyria (with peripheral neuropathy and family history), should be considered.[1]

Finally, central nervous system lesions (associated with tumors, inflammation, cerebrovascular accidents, or intracranial bleeding) may also generate new-onset psychosis. Further workup is indicated for patients whose initial evaluation suggests the possibility of one of these conditions.

What Is the Psychiatric Differential Diagnosis of an Intense Fear of Medical Illness?

While anxiety can be a normal part of physical symptoms, when such anxiety begins to significantly impact function, it needs to be addressed. When a patient presents with an irrational fear about AIDS or another serious medical condition that impairs functioning, it can pose a diagnostic dilemma; the key features of the differential diagnoses are presented in Table 1 and described below.

Delusional disorder. Delusions are fixed, false beliefs that are not widely held in a person's culture; they usually involve a misinterpretation of perceptions or experiences.[2] In delusional disorder, the delusions are nonbizarre, systematized, and well organized; common examples include the belief that one is being persecuted, is infected, or has an unfaithful spouse.[3] Somatic delusions are a specific subtype of delusional disorder that consists of delusions of a physical defect or general medical condition.[2] In contrast to patients with schizophrenia, psychosocial function and the thought process of the person with delusional disorder are usually unimpaired.

Many individuals with delusional disorder develop dysphoric or irritable mood, often in reaction to their delusional beliefs.[2] In delusional disorder, when symptoms of depression arise with delusions, their duration is in general shorter than is the duration of the delusions. Suicide attempts are uncommon among patients with delusional disorder, but they can occur in patients who feel hopeless or despondent.[4]

Major depressive disorder with psychotic features. Some patients with a fear or a delusion of having AIDS meet criteria for major depressive disorder (MDD).[5,6] MDD is characterized by having 5 of 9 cardinal symptoms of depression for most of the day, nearly every day, for at least 2 weeks, with significant impairment of function. Patients with MDD can have psychotic features (e.g., delusions or hallucinations). Delusions in such

Table 2. Key Features of the Somatoform Disorders

Disorder	Key Features
Hypochondriasis	A preoccupation with having (or fear of having) a serious disease Misinterpretation of bodily symptoms 6-mo duration of symptoms Can be monosymptomatic
Somatization disorder	Combination of 4 pain, 2 gastrointestinal, 1 sexual, and 1 pseudoneurologic symptoms Onset before age 30, occurs over several years Extensive treatment is sought
Conversion disorder	Unexplained symptoms that affect voluntary motor or sensory function
Pain disorder	Unexplained pain is the predominant complaint
Body dysmorphic disorder	Preoccupation with an imagined or exaggerated defect in physical appearance
Undifferentiated somatoform disorder	Physical complaints that persist for at least 6 mo

patients are usually nonbizarre and are mood-congruent (e.g., those involving guilt and deserved punishment)[2,7]; somatic delusions or delusions of illness are also quite common in MDD with psychotic features. A mood disorder with psychotic features can be distinguished from delusional disorder by the course of psychotic symptoms—if delusions occur *only* during the mood episode, it is far more likely that a mood disorder with psychotic features is present. In delusional disorder, delusions persist after mood symptoms, which are often mild, resolve.[2,3]

Dysthymia is a mood disorder with milder but longer-lasting depressive symptoms. Depressed mood, with at least 2 additional symptoms, must be present for at least 2 years (in the absence of MDD). In general, delusions are uncommon in dysthymia.

Somatoform disorders. Patients who present with an irrational belief about medical illness may have a somatoform disorder. Such disorders are characterized by physical symptoms that lack a discernible medical cause. Table 2 outlines characteristics of the somatoform disorders. Patients with a somatoform disorder frequently present to clinicians for treatment; medical evaluations and reassurance typically fail to reduce distress over symptoms. Patients with somatoform disorders have physical symptoms during periods without the presence of a mood disorder. However, somatic symptoms are frequently associated with depressive disorders; up to 75% of patients with MDD present to their physician with only somatic symptoms.[1] In addition, somatoform disorders and mood disorders commonly co-occur.[7–9]

However, somatoform disorders can be distinguished from primary mood disorders. Patients with depression and somatic symptoms often express that they do not deserve treatment or to feel better, and they speak of hopelessness about improvement; however, those with somatoform disorders typically actively seek medical treatment.[1] In addition, patients with a somatoform disorder usually have chronic physical symptoms that persist even when mood symptoms have improved or resolved.

Among those with a somatoform disorder, an intense fear of medical illness is most often associated with hypochondriasis. In hypochondriasis, the patient can entertain the possibility that he or she does not have the disease. Further, patients with hypochondriasis typically do not have fears about a single symptom or organ system.[3]

Monosymptomatic hypochondriasis. A condition similar to the somatoform disorders and delusional disorder is monosymptomatic hypochondriasis. Monosymptomatic hypochondriasis is characterized by a single, false belief about illness that is limited to a single disease.[1,9] The intensity of the belief is profound, and it causes severe life disruption; however, the patient's personality is otherwise unaffected. Anxiety and depression are commonly associated with monosymptomatic hypochondriasis, and there is often concurrent alcohol abuse.[1] Forms of monosymptomatic hypochondriasis have included delusional parasitosis and the fear of AIDS.[9,10]

The distinction between monosymptomatic hypochondriasis and somatic delusional disorder is not well defined. However, monosymptomatic hypochondriasis appears to be more frequently associated with intense shame and profound anguish about the illness than is seen in delusional disorder; patients with monosymptomatic hypochondriasis often have prominent mood symptoms.[1]

Factitious disorder or malingering. Patients with an intense illness fear should also be evaluated for factitious illness and malingering, especially if the presentation is atypical. Factitious disorders involve feigned or simulated symptoms that place the patient in the "sick" role. Symptoms may be medical or psychiatric (such as delusions).[1] Malingering involves the intentional falsification of symptoms for a secondary gain, often in a medicolegal context; those with the condition often have a borderline personality disorder or an associated antisocial personality disorder.[1]

What Does the Medical Workup of Patients With Multiple Physical Symptoms and an Intense Fear of Illness Involve?

To evaluate physical symptoms, a history should be obtained, a physical examination conducted, and laboratory tests performed; these tests should include a

complete blood count, urinalysis, measurement of a thyroid-stimulating hormone (TSH) level, a basic chemistry panel (including calcium), and liver function tests. Further testing may include brain magnetic resonance imaging (MRI) (e.g., for suspected multiple sclerosis or an intracranial lesion or when a focal neurologic deficit or atypical symptoms exist), a Lyme titer if there is suspicion of Lyme disease, a parathyroid hormone level for suspected hyperparathyroidism (with "stones, bones, abdominal groans, and psychic moans"), or an antinuclear antibody test for suspected lupus.[11]

To evaluate new-onset psychosis, laboratory testing may also include a toxicology screen, a brain MRI, an electroencephalogram, a B_{12} level, and serologic testing for syphilis, especially if the history or examination suggests neurologic deficits.

Should a Human Immunodeficiency Virus (HIV) Test Be Obtained in a Patient With a Fear of AIDS?

When deciding whether to obtain an HIV test, the level of risk of HIV infection should be considered, including a history of unprotected sexual intercourse, prior sexually transmitted diseases, intravenous drug abuse, and blood transfusions. However, a patient who requests HIV testing may underreport his or her risk factors for HIV infection, especially when the patient's behaviors are associated with shame or guilt. A patient's history of prior testing should also be considered; multiple prior negative tests for HIV in a low-risk patient may indicate more of a psychological need for repeated testing rather than reasons based on true risk.

The Centers for Disease Control and Prevention recommend that physicians offer HIV testing as part of routine health care to all patients in high-prevalence settings (defined as settings in which the prevalence of HIV infection exceeds 1%), to all patients with risk factors for HIV infection in low-prevalence settings, and to patients who request HIV testing[12]; in addition, all patients in health care settings should receive HIV screening.[13]

What Does the Psychiatric Workup of Patients With an Intense Fear of Medical Illness Encompass?

The treatment team should systematically consider a wide range of psychiatric diagnoses. To this end, they should obtain detailed information from the patient, the family, and other treatment providers related to current and past symptoms, and the patient's behavior should be observed closely. In addition, adjunctive testing may assist in diagnostic clarification.

To evaluate for a mood disorder, the patient's mood, interests, and self-esteem should be evaluated serially, and the presence of neurovegetative symptoms of depression should be determined. Somatoform disorders, especially hypochondriasis, should also be assessed by carefully reviewing the patient's current and past experience of physical symptoms and his or her reaction to normal examinations and testing.

With respect to delusional disorder, the clinician should evaluate the patient's ability to entertain the possibility of not having the illness. Moreover, the patient's reaction to any negative medical tests should be monitored, as a continued fixed belief about having an illness despite a negative test would be more consistent with a delusion, while a feeling of reassurance (even if brief) would be more consistent with a somatoform disorder.

When distinguishing among a mood disorder, a delusional disorder, and a somatoform disorder, psychological testing can be helpful. Psychometrically validated questionnaires (such as the Personality Assessment Inventory[14] and the Minnesota Multiphasic Personality Inventory[15]) can provide further diagnostic clarification and characterization of personality style. Such tests can also assist in assessment for factitious disorder or malingering.

How Can a Patient With an Intense Fear of Medical Illness Be Managed?

Table 3 outlines the evaluation and treatment of a patient who presents with intense somatic fears. A careful evaluation for general medical causes should be performed. If this assessment is unrevealing, psychiatric causes should be investigated. A patient who presents with illness-related fears may not accept nonmedical causes for his or her symptoms. He or she may feel demoralized, abandoned, or isolated when told that there is no active medical illness; low self-esteem is commonly detected.[4] To facilitate proper psychiatric treatment, the physician should validate the patient's experience and convey that stress contributes to these symptoms. Regular, scheduled appointments with the primary care physician can be quite helpful. This structured medical care and alliance formation facilitate a careful medical and psychiatric diagnostic evaluation and promote acceptance of treatment.[9]

If the patient has a delusional disorder, treatment with an antipsychotic is indicated. Typically, patients are quite sensitive to medication side effects due to their somatic preoccupation; therefore, antipsychotics are started at low doses and increased slowly. Unfortunately, symptoms may be slow to respond and require extended treatment. If symptoms are consistent with MDD or dysthymia, treatment with a standard antidepressant is indicated. If the patient has psychotic symptoms (e.g., somatic delusions or delusions of guilt), an antipsychotic in addition to an antidepressant is the treatment of choice.

In the case of a patient with a somatoform disorder, brief, regular physician visits can help reassure the patient and provide structure. The physician should avoid ordering medical tests and procedures unless they are

Table 3. The Evaluation and Treatment of Intense Somatic Fears

History	Comprehensive, with focus on the following:
	Nature and duration of all medical symptoms, past medical attention, and prior workup
	Full history of any psychiatric symptoms: mood (including bipolar), anxiety, somatoform, and psychotic disorders
	Substance use assessment
	Suicidality (past and current)
	Past psychiatric history, treatment, and hospitalizations
	Current stressors and level of functioning
Physical	Comprehensive, with focus on the following:
	Presenting somatic complaints
	Rash or other stigmata of illness (target lesion, Kayser-Fleischer ring)
	Neurologic examination—focal deficits, movement disorders
Laboratory tests and studies	Obtain basic laboratory tests:
	Complete blood count, metabolic panel (with calcium), liver function profile, thyroid profile, urinalysis, toxicology screen
	HIV test with appropriate risk/patient request
	Additional laboratory tests/studies in patients with associated symptoms: B_{12}, Lyme titer, autoantibodies, serologic testing for syphilis, parathyroid hormone level, MRI, EEG
Psychiatric assessment	Further monitoring and assessment of symptoms of mood disorders (including neurovegetative symptoms of depression) and delusions/psychotic symptoms, including time course and relationship of symptoms
	Assess extent of beliefs—delusional vs able to entertain reality
	Obtain collateral information from family and other treatment providers
	Consider testing with psychometrically validated questionnaires
	Assessment for secondary gain (malingering or factitious)
Treatment	Regular appointments; foster therapeutic alliance
	Individual therapy
	Psychopharmacologic treatment based on diagnosis:
	Delusional disorder—antipsychotics
	Major depressive disorder—antidepressants
	Major depressive disorder with psychotic features—antidepressant plus antipsychotic
	Monosymptomatic hypochondriasis—antipsychotic (plus antidepressant if symptoms of depression)

Abbreviations: EEG = electroencephalogram, HIV = human immunodeficiency virus, MRI = magnetic resonance imaging.

objectively indicated. Individual psychotherapy, and cognitive-behavioral therapy in particular, have been efficacious in the treatment of somatoform disorders by helping patients develop insight into the genesis of their physical symptoms and by exploring underlying personality features that contribute to symptom development.[16,17] Psychopharmacologic agents have in general not been well tolerated or efficacious in these patients unless there is a comorbid mood or anxiety disorder.[1]

While there are no clear treatment guidelines for patients with monosymptomatic hypochondriasis, treatment is generally similar to that for delusional disorder. Antipsychotics (such as risperidone, clozapine, chlorpromazine, or haloperidol) have been used with appropriate improvement in symptoms.[18–20] Pimozide (a typical antipsychotic) has often been efficacious in cases of delusional parasitosis, although it is generally used with caution given its higher risk of extrapyramidal symptoms, cardiac conduction effects, and drug-drug interactions.[20] Antidepressants have also been used in patients with fears of medical illness, especially when comorbid depression is present.[4,5,21] Psychotherapy also helps manage fears of illness and improve function.

Case Conclusion

Mr. A's assessment included a complete blood count, serum chemistries, a toxicology screen, urinalysis, and measurement of a TSH level; results of this workup were normal. Although he was at low risk for HIV infection (and with no prior documentation of his HIV status), he was tested for HIV infection; his HIV test was negative.

Given his intense belief in a single illness, as well as his profound shame and associated mood disturbance, Mr. A's constellation of symptoms was most consistent with monosymptomatic hypochondriasis. Further investigation of his long-standing mood symptoms (through observation, interview, and collateral information) suggested comorbid dysthymia (without current MDD).

An atypical antipsychotic, risperidone (to treat his AIDS-related fears), and citalopram (to treat his dysthymia) were administered; he also entered brief individual therapy (to address his illness fears and his guilt). Mr. A's beliefs about having contracted AIDS became less intense, and he was able to entertain the possibility that he was not infected. After several days, his physical symptoms resolved and his emotional distress improved. He was discharged 5 days after admission with plans for outpatient psychotherapy and monitoring of medications.

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