Diagnostic Overshadowing: When Cognitive Biases Can Harm Patients

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Case Scenario

A 75-year-old woman had been living in a nursing home for several years. She had moderate dementia and took citalopram for severe anxiety. She often shouted that she was dying, prompting her physicians to add quetiapine to her treatment regimen to modify her disruptive behavior. One day, she woke up quieter than usual and said her head felt like it was exploding. Her nurse was concerned and contacted her physician. When the physician visited her later that day, she told him, "I feel dizzy, my head is exploding, and I'm going to die." The physician told her to "calm down" and asked the nurse to administer a dose of lorazepam and the quetiapine earlier than scheduled. When the nurse visited the patient a few hours later, the patient was calm but obtunded. The patient was transported by ambulance to the hospital. Noncontrast head computed tomography found a large cerebral hemorrhage. The patient died a few hours later.

Clinical Commentary

According to the Joint Commission, diagnostic overshadowing is "the attribution of symptoms to an existing diagnosis rather than a potential co-morbid condition."[1] Overshadowing, most common in patients with mental disabilities, originates from physicians' cognitive biases and leads to assumptions about a patient that preclude an appropriate diagnostic approach and treatment plan. People with psychiatric disabilities are more likely to have underlying medical conditions, including a far higher incidence of cerebrovascular and cardiovascular disease, arthritis, and diabetes mellitus. Physicians who focus on psychiatric issues may become myopic and not appreciate the underlying causes of new symptoms in these patients.[1]

Overshadowing is most commonly a result of three types of bias: anchoring bias (reliance on initial impressions even after receiving conflicting information); premature closure bias (prevents people from investigating problems when they think they have the answer); and implicit bias (involving preconceptions of race, ethnicity,

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CME This clinical content conforms to AAFP criteria for CME. See CME Quiz on page XXX.

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TAKE-HOME MESSAGES FOR RIGHT CARE

Diagnostic overshadowing occurs when a known underlying condition leads to assumptions about a patient that prevent physicians from making a new diagnosis that may mimic symptoms of the underlying condition.

Anchoring bias, premature closure bias, and implicit bias can all contribute to diagnostic overshadowing.

Physicians with the lowest and highest levels of experience are the most vulnerable to diagnostic overshadowing.

Diagnostic overshadowing can lead to misdiagnosis, treatment delay, inappropriate treatment, and poor clinical outcomes.

gender, and underlying psychiatric illness that lead to presumptive diagnoses).[2]

SCOPE OF THE PROBLEM

Approximately 13% of the U.S. population have mental illness and, as a whole, are less likely to seek medical help, even with a proportionally higher incidence of underlying physical illness than the general population.[3] This group often has difficulty communicating symptoms, is fearful of the health care system, and is less likely to get screening tests, attend physician visits, and receive immunizations. These patients often present with symptoms that can “blind” physicians to the actual cause of their illness because the physicians may focus instead on the patient’s mental health issues.[4]

A 2019 article described a patient with primarily physical disabilities whose symptoms were attributed to his known chronic illness rather than the gastrointestinal stromal tumor that was belatedly discovered.[5] The author wrote, “His providers saw a patient with complete quadriplegia, paralyzed below the neck [and] when he developed new symptoms [they made] the erroneous attribution of all new symptoms to a [known] underlying health problem.” People with physical and intellectual disabilities have a much higher rate of gastrointestinal disorders than the general population and have underlying pathology distinct from the manifestations of their psychiatric diagnoses.[4]

In pregnant patients with disabilities, diagnostic overshadowing often leads to missed diagnoses and poor clinical outcomes. One review found that 83.5% of all symptoms in pregnant patients with known disabilities were physical, although many were ascribed to the disability by health care professionals.[6] Similarly, people with disabilities have a higher risk of cancer. However, in one study, clinicians ascribed cancer symptoms to the patient’s underlying disability in one-half of cases, leading to significant delays in diagnosis and treatment.[7]

A small study in British emergency departments found that a psychiatric disorder led to misdiagnosis or delayed treatment 77% of the time when the diagnosis was missed or other diagnoses were considered before arriving at the correct diagnosis. The likelihood of missing a diagnosis increased when the symptoms were complex or initial tests did not find a physical cause. Psychiatric nurses were often the health care professionals who encouraged physicians to consider nonpsychiatric causes.[8]

In the outpatient setting, people with psychiatric illness and chronic ischemic heart disease are less likely to receive tests or procedures to address cardiac issues.[9] A study in Portugal found that general practice physicians exhibit much higher rates of diagnostic overshadowing than psychiatrists. In this study, physicians with the lowest and highest levels of experience were most vulnerable to overshadowing.[10] In patients with an intellectual disability, the degree of disability was proportional to the chance of overshadowing, and more experienced physicians were less likely to look beyond the disability than those with less experience. The biases associated with caring for patients who have an intellectual disability may become stronger over time, which is why experienced physicians exhibit more overshadowing.[11] Overshadowing occurs equally in trainees and practicing physicians.[12]

OTHER FORMS OF STIGMA AND BIAS

Comparatively little has been written about diagnostic overshadowing outside the mental health realm. The term stigmatization is often used to describe overshadowing. A physician who believed that her obesity blinded her physicians to the actual cause of her ailments could not identify any literature on overshadowing and obesity.[13] One study suggests that implicit clinical bias against ethnic and racial groups is common, even though overt bias has become rare.[14] Stigma against certain groups is related to ignorance, attitude, or discrimination, all of which have been found to occur to some degree among physicians who approach patients with underlying assumptions.[15] Such stigma leads to population inequities due to stigmatized populations being less likely to seek necessary health care.[16]

A psychologist who has physical and mental illness described diagnostic overshadowing as “lazy medicine.” Because people with mental illness report negative attitudes from their physicians, they often avoid visiting a physician when sick and have a higher rate of physical illness and undiagnosed disorders leading to a higher premature death rate. The psychologist provides a guide for patients to take control of their health by finding their voice, using the term diagnostic overshadowing with health care professionals, and refusing to be pigeonholed by their physician’s diagnostic blindness.[17]

Patient Perspective

We have heard stories of people irreparably harmed by diagnostic overshadowing, which is probably the type of medical underuse that patients fear most. Although the term originated in the mental health arena, we have seen examples relating to conditions including physical disability, intellectual impairment, obesity, old age, unusual diagnosis, and often female sex. The problem sometimes comes from the misapplication of general medical precepts, such as assumptions about mental illness or the idea that patients who are disabled or older should not be subjected to excessive medical intervention. Our plea as patients is for all health care professionals to be skeptical about practices that may be based more on tradition than evidence.

Patients, especially those with limited mental capacity, should have an advocate willing to challenge potential overshadowing with the question, "Does your diagnosis explain all the symptoms reported by your patient?" This is especially important when a new symptom may be overshadowed by comorbidities, such as for this patient in the nursing home. Likewise, patients must never be afraid to ask their physician if their diagnoses explain all their symptoms or if new symptoms could be due to a medication's adverse effect. We are aware of instances where patient tenacity about their unexplained symptoms has led to more complete diagnoses than initially determined by their physician. Sorting this out may require a team of clinicians to work with the patient and their advocate to discover the cause of any new symptoms. The patient's primary care physician is critical to this team-building process.

Resolution of Case

The patient's age and intellectual disability may have contributed to overshadowing. Following the patient's death, the nursing facility's medical director educated the staff and clinicians about the importance of approaching all patients with new symptoms—regardless of age and underlying issues—as though they have an illness separate from their chronic conditions.

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