Medically Unexplained Neurologic Symptoms:  
A Primer for Physicians Who Make the Initial Encounter  
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ABSTRACT  
Medically unexplained symptoms are ubiquitous in clinical practice. Medical use costs of medically unexplained symptoms are projected at approximately $256 billion per year. When initially seen, these symptoms are often baffling, not only to the patients but also to the physicians who encounter them. Because of this, properly diagnosing them is seen generally as difficult at best, leading to massive overuse of unnecessary testing. Subsequently, their management can be cumbersome. All this burdens the patients with unnecessary costs, financially and emotionally. This primer discusses historical perspectives of these and the changing nomenclature, and outlines how to think about these complex symptoms and neurologic findings that will enable a positive diagnosis rather than a diagnosis of exclusion. We also offer useful heuristic principles of their management so that physician-patient relationships can be better maintained and the quality of life of these patients can be improved by way of some simple, economic approaches.

KEYWORDS: Functional neurologic disorders; Management; Medically unexplained symptoms; Movement disorder; Psychogenic symptoms

Many physicians encounter patients with symptoms that are not compatible with known anatomic and physiologic principles. Such symptoms tend to be baffling in their presentation and can test the best diagnosticians. Some reports estimate the incidence of medically unexplained symptoms to be approximately 22% of all reported symptoms at a primary care setting and up to approximately 30% in some of the specialized tertiary care neurology clinics. Although many of these medically unexplained symptoms tend to be neurologic in nature, they occur in all medical specialties. Some examples include irritable bowel syndrome, fibromyalgia, chronic pelvic pain, globus hystericus, pseudo-seizures, stroke mimics, some types of amnesia, and abnormal movements. Such medically unexplained functional movement disorders are one of the most prevalent disorders seen in neurologic clinics.

An estimate of medical use costs of all different types of medically unexplained symptoms is approximately $256 billion per year. The annual cost of functional movement disorders alone (which are only a small portion of the neurologic symptoms of nonorganic cause) to the US healthcare system is estimated to be more than $20 billion, assuming that these symptoms represent 10% of all medical costs. In neurology, for example, movement disorders of nonorganic disorders are so common that they are now referred to as a “crisis for neurology.”

At present, little is known about the pathophysiologic mechanisms of medically unexplained symptoms. Because of this, it is often assumed that patients with medically unexplained symptoms “make up their symptoms [for secondary gain].” This leads to stigmatization of many patients who legitimately experience inexplicable and complex symptoms. In general, the evaluation and management of these patients are thought to be frustrating and...
unrewarding, and there is a prevailing, if anecdotal sense that “they take time away from those who really need our care” (personal communication, P. Herath, 2014). Because medically unexplained symptoms often occupy a gray area between the several medical specialties (eg, between neurology and psychiatry), no one is willing to take charge of the patient, leading to even more complex and difficult interactions. Because of this, patients may receive inadequate care, inappropriate and excessive “diagnostic” testing, dangerous or ineffective therapies, and multiple, often unnecessary referrals. As such, these cases are costly to everyone, including the health care systems at large. In addition, nonorganic disorders have detrimental effects on the patient’s quality of life.

The purpose of this article is to illuminate the current state of understanding of medically unexplained symptoms and to establish basic heuristic principles of their management. It is important that clinicians take an interest in medically unexplained symptoms not only because an enormous amount of healthcare and quality of life costs are associated with them but also because these patients often present in primary care settings. A primary care practitioner, who happens to be the sentinel of these patients, must know how to listen and evaluate on the basis of some established principles, to arrive at a positive diagnosis, and to communicate what is often thought of as a difficult diagnosis. Also, it is important to know when to refer to a specialist with interest in these symptoms, because this condition requires a dedicated team approach to maximize treatment success.

**A LONG HISTORY OF MEDICALLY UNEXPLAINED NEUROLOGIC SYMPTOMS**

The malady of inexplicable medical symptoms may have been recognized millennia ago. The word *hysteria* has Greek roots, from *hystera,* which means uterus. Because this was originally identified in women, Greeks believed that hysteria occurred when women had unsatisfied sexual desires. Ancient remedies included pelvic or ovarian pressure. Similar symptoms have been referred to in ancient Egyptian writings. However, they believed this disorder occurred when the uterus had moved upward from its pelvic position to elicit odd symptoms. They placed aromatic substances in women’s genital regions, believing that their uterus would fall back down into place.

Modern day concepts of hysteria came to the forefront of medicine in the late 19th century, when Charcot described how men also could experience hysteria. With this, he attributed the illness to dysfunction of the central nervous system—that hysteria was not the physical result of a traumatic episode, but the patient’s emotional response to it. Joseph Breuer described the patient Anna O, who displayed unusual symptoms while taking care of her sick father. She developed a paralysis, headaches, intermittent deafness, visual disturbances, and temper tantrums during and after her father’s illness. To correct her symptoms, Breuer asked Anna O to recreate her memories and have a “purging” of her emotions, known as “emotional catharsis.” This was done with each of her symptoms until she was completely cured, which is a claim that has now been refuted. A few years later, Freud, who was Breuer’s student, decided to study under Charcot, who believed hysteria was an outward symptom of an unconscious agitation. Because Freud concluded that these symptoms were the result of repressed painful memories, he believed that listening to and observing his patients would help cure them. As he did so, Freud synthesized both Breuer’s cure and Charcot’s traumatic experience concepts to create what later became psychoanalysis. Later on, Babinski contributed to this idea by postulating that the cause of hysteria was due to a cortical brain lesion, which he discovered by defining certain neurologic signs to differentiate organic dysfunction of the central nervous system.

Despite this extended history of descriptions, even today, there is no universal agreement on the nosology of these symptoms. For instance, many neurologists consider inexplicable neurologic symptoms a “functional” or “psychogenic neurological disorder,” whereas many psychiatrists discuss the possibility of a “conversion disorder” and actively seek exclusion of organic disease when they are not able to detect any psychologic stressors as required by the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition. Given that only a modest proportion of patients report a physical or psychologically traumatic event that precipitates their symptoms, it is often difficult to remember that although assessment for emotional trauma is important, the diagnosis of a psychologic cause should not be withdrawn if a stressor is never found, and that long forgotten traumatic events may prompt the development of symptoms by providing a stimulus to those predisposed.
HYSTERICAL AND FUNCTIONAL VERSUS PSYCHOGENIC: HOW TO DEFINE MEDICALLY UNEXPLAINED SYMPTOMS

Naming a disease is no trivial issue. Everything that will subsequently happen to a patient—from conceptualization of the symptoms to the logic behind the diagnosis and treatment—will hinge on a precise label. Many terms have been used in an attempt to arrive at this, including hysteria, hypochondriasis, conversion disorder, psychogenic, and, more recently, functional neurologic disorder (Figure 1). At this time, there is no agreement as to which term is better, neither from an ontologic nor a nosologic standpoint.

The term “conversion disorder” is not very useful because it provides no clinical information and does not allow a physiologic formulation of the symptoms, leaving behind a great deal of uncertainty. “Psychogenic symptoms,” another popular term, has been deemed more useful because it implies a potential clinical cause, but it also tends to be one-dimensional. In addition, the term fails to address the sociobiological factors that may have been contributory to medically unexplained symptoms, and a psychologic stressor may never be found in most patients with these movement disorders.21 Regardless, both terms are accompanied by an inherently attached stigma that often hampers communication, thereby limiting the acceptance by patients.11

It is in this context that the term “functional symptoms” has gained a degree of acceptance. It denotes a physiologic disturbance of the function of the nervous system and lacks any stigma engendered by it. However, it is argued that the term is ambiguous and often used just to be politically correct. “Functional” also implies that structural pathology may not be apparent22 and can be confusing. Despite this, studies have shown that the term “functional” is most accepted by patients, as opposed to “conversion,” “hysteria,” “medically unexplained,” or “psychosomatic.”23,24

CLINICAL PRESENTATION AND DIAGNOSTIC APPROACH

In general, medically unexplained symptoms are seen most commonly in young women. Fairly often, they tend to have been employed in the medical profession. However, no sex, age, or occupation is immune to this malady. Known risk factors include history of major stressful life events, sexual abuse, previous surgery, or other physical trauma.25 The diagnosis of medically unexplained symptoms is in fact clinical and relies on identifying features and patterns from the patient’s history (Tables 1 and 2) and physical examination that are incongruent with organic neurologic disorders.

In addition to performing a complete physical examination on these patients, there are several bedside tests (Figure 2) that may be helpful in making a diagnosis of medically unexplainable neurologic symptoms (Table 3).24

A clear, incisive history in which the patient is gently guided to characterize the details of the phenomenology of the symptoms is the most important contributor to a proper and an early diagnosis. Well-honed observational skills and less reliance on various tests are important to proceed with an unbiased diagnostic process. Early inquiry about psychologic factors might curtail the ability to engage the patient. Therefore, not overburdening the initial evaluation with a full psychiatric history is recommended. However, it is important to eventually ask questions about stressors (physical, emotional, sexual) and substance abuse.22

One heuristic principle is that the more symptoms the patient has, the more likely it is that the primary symptom will not be due to a recognized organic disease. It is important to show early familiarity with the initial problem no matter how unusual it may seem. This is something that primary care practitioners could focus on to prevent patients from feeling like they are a medical anomaly and that they are being “discarded” to some other specialist.24 Clinicians should inquire about what the patient believes is wrong so that they may make a more personalized explanation later in the discussion.26 Clearly, it is impossible to avoid all testing, because the presence of positive signs of a functional symptom does not exclude a comorbid underlying organic disease.24,26,27 A simple, reassuring approach to preliminary testing might be to explain why the tests are being done and to assure that there are no underlying abnormality causes, based on the physical examination. However, it is important to warn patients about the chance of incidental findings on a magnetic resonance imaging scan, for example, and that normal imaging does not exclude neurologic disease.26 Early referrals to a specialist neurologist, who has declared an interest in nonorganic symptoms, can be an invaluable opportunity, because this can help avoid unnecessary testing in patients. It is also important to remember that a misdiagnosis after a thorough evaluation by a specialist is now known to be very unlikely.28,29

MANAGEMENT

Because acceptance of the diagnosis of nonorganic disorders is essential to treatment success, the way the diagnosis is delivered is very important.24,27 Using nonjudgmental

![Figure 1 Overlap between terminologies. ICD 10 = International Classification of Diseases, 10th Revision.](image-url)
terminology that allows effective communication when the diagnosis is discussed is essential because counter-transference can be a major impediment at this stage. Some of the elements of this effective communication include telling the patient that you believe him or her and simply explaining what the patient does and does not have.

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<tr>
<th>Table 1</th>
<th>Characteristic Features of Many Different Kinds of Medically Unexplainable Nonorganic Neurologic Symptoms</th>
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<td>Tremor</td>
<td>• Inconsistent amplitude and frequency • Disappearance when patient is distracted • Absence of finger tremor • Entrainment (tremor assumes the same frequency and rhythmicity of an external repetitive rhythm produced by the examiner)</td>
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<tr>
<td>Dystonia</td>
<td>• Inconsistent sustained movements over time • Incongruous postures • Symptoms of more pain than discomfort • Early or initial lower-extremity leg involvement</td>
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<td>Gait</td>
<td>• Patient does not seem to adapt efficiently to gait problem (uneconomic postures, astasia-abasia) • Momentary fluctuation of gait and stance • Excessive slowness • Sudden buckling of knees without falls • Normal limb power and sensation lying down, but inability to stand and walk</td>
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<tr>
<td>Myoclonus</td>
<td>• Changing pattern of frequency, amplitude, and anatomic distribution • Presence of a Bereitschaftspotential before the movement: electroencephalogram and back averaging according to an electromyogram - the presence of a Bereitschaftspotential indicates that the voluntary motor system is being used for movement</td>
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<td>Parkinsonism</td>
<td>• Maximum disability early in the disease course • Excessive slowness • Signs and symptoms worsening with emotional upset • Functional resting tremor most likely present • Stiffness present, with a quality of active resistance • No cogwheel or axial rigidity • Often, astasia-abasia (see above)</td>
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<td>Nonepileptic Seizures</td>
<td>• Often, eyes shut during the event, resistant to opening • Duration &gt;2 sec • Asynchronous, semi-purposeful limb movements • Tongue biting, usually only at the tip • Side-to-side head shaking • Prolonged atonia</td>
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<tr>
<td>Pseudodementia</td>
<td>• Incongruity between behavior in unstructured situations and conversations versus performance on formal mental state evaluation, particularly in patients who are depressed</td>
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<tr>
<td>Pseudo-strokes</td>
<td>• Clinically, stroke-like symptoms without any radiologic evidence of infarction on magnetic resonance imaging</td>
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<th>Table 2</th>
<th>Features from the History Suggestive of Symptoms of Nonorganic Cause</th>
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<td>• Precipitating event • Abrupt onset/sudden remission of symptoms, evolution to other symptoms over time • Rapid progression to a maximum intensity within a very short time • Inconsistent character in amplitude, frequency, or distribution over time • Comorbid psychiatric disturbances, such as anxiety, depression, or multiple somatizations</td>
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Emphasizing that these symptoms are common, potentially reversible, and nonlethal and that self-help is often a key element in clinical improvement can improve trust and acceptance. We believe that such an approach improves a patient’s confidence and sense of autonomy. Most patients can be easily reassured by emphasizing how the examination is normal; therefore, symptoms are most likely due to a malfunctioning neural pathway rather than a structural or chemical defect. This also eliminates anxiety and unnecessary testing. Often, metaphors are extremely useful; for example, the analogy of a “computer that has a software defect rather than a hardware error” or perhaps phrases such as “symptoms are like a piano that’s out of tune” and “it is
like a short-circuit of the nervous system” are useful and lead to easy acceptance by the patients because they are nonjudgmental and easy to understand.24

Although the first step to improvement is having the patient understand the explanation given by the specialist neurologist, we often recommend adding a psychiatrist to the treatment team to help manage previously untreated post-traumatic stress disorder or other affective symptoms,21 emphasizing that psychiatrists and neurologists usually work together with the primary care providers. Telling patients that their care is always a team approach and that all treating physicians will continue to be involved in their treatment can be useful.

The diversity of reported therapeutic trials in medically unexplained symptoms demonstrates that multidisciplinary collaborative care is ideal for these patients. Such treatment options include psychotherapy30 and physical therapy.24,27,31 On the other hand, acupuncture, hypnosis, electromyography biofeedback, and repetitive transcranial magnetic stimulation seem to have no supportive literature other than anecdotal. Because of ethical considerations, placebos generally are not recommended as treatments.21 An additional part of successful treatment is the removal of unnecessary medications and avoidance of unnecessary tests and surgical treatments.32

If a patient believes that he or she is taken seriously, many will eventually become less defensive and open up about emotional symptoms and possible stressors. Their management involves a combination of psychotherapy, stress management, relaxation techniques, and pharmacologic treatment when appropriate.25,30 There should be a discussion with the patient about trying an antidepressant, regardless of the patient’s mood or anxiety, because there are some data to suggest that selective serotonin reuptake inhibitors are useful in medically unexplained neurologic symptoms.27 Regardless of the therapeutic approach, the goal of treatment is to enable the patient to return to his or her previous level of functioning.25

**CONCLUSIONS**

Medically unexplained neurologic symptoms are common. They can be disabling and exceedingly distressing to the patients and their families. It is important to not make the diagnosis on the basis of psychologic grounds, but firmly based on positive physical signs of inconsistency or incongruity combined with a solid knowledge of neurologic disease. Compassionate neurologists and psychiatrists who are interested in holistically treating these patients and who offer careful and rational explanations of the diagnosis are in a good position to alter the trajectories of these patients, and they should be important members of treatment teams in the management of these challenging patients.

**References**


