**Instructions:**

- Each speaker will prepare a syllabus that must be submitted through the online submission system.
- The length of the syllabus will be no shorter than 4 single spaced pages in essay (not point) format, plus references.
- Use single spaced, 11 point type and (if possible) Times New Roman font.
- When typing the text use word wrap, not hard returns to determine your lines.
- If headings and subheadings are used, these may be highlighted by using all caps and bold.
- Do not use the header or footer feature or endnotes in preparing the text.
- The submission must be submitted online.

**Title:**

SOMATOFORM DISORDERS

**Learning Objectives:**

1. recognize the signs, symptoms and history associated with the presentation and diagnosis of somatoform disorders;
2. differentiate neurological and non-neuroanatomical presentations;
3. discuss the diagnosis of somatoform disorders with patients and families to enable acceptance of treatment;
4. recognize the treatment options available for patients with somatoform disorders.

**CME Questions:**

1. The clinician should address which of the following issues in a person suspected of having a somatoform disorder:
2. The gold standard for diagnosing psychogenic nonepileptic seizures is:
3. Which of the following therapies has the *least* successful outcomes for patients with somatoform disorders:

**Keywords (Max 5):**

1. neuropsychiatry
2. somatoform disorders
3. conversion disorder
4. examination
5. treatment

**Introduction/Abstract (Please see instructions for formatting details):**

A century ago, neurology and psychiatry were practiced in a unified framework as neuropsychiatry. In the early 20th century, divisions occurred in the fields and lines were drawn between those who evaluated and treated patients with epilepsy, strokes, and migraines, and those with anxiety, depression, and schizophrenia. These divisions resulted in a dichotomous view of the brain/mind and influenced how we assessed the two patient populations.

Every medical specialty has patients who overlap the boundaries of its practice. These patients require a broadened perspective in their assessment. General neurologic training focuses its teachings on the elemental neurological exam, and psychiatric training focuses on the mental status exam. Many times, one approach is used at the exclusion of the other. How to best assess at bedside the borderlands of neurology and psychiatry (attention, alertness, cognition, memory, motivation), truly can be a gray zone.
The future of neurology and psychiatry has been and will be largely influenced by two major areas of interface – neuroscience discovery in the past 20 years and during the decade of the brain, and by the practical needs of society as felt in the growing elderly population. Neuroscience continues to yield greater advances in diagnosis and treatments for brain/mind diseases. As the population ages, we will have to confront increasing needs for effective and safe neurobehavioral management in patients with greatly prevalent neurodegenerative disorders.

In this session we review the literature on one of the most challenging and sometimes frustrating patient population, those with somatoform symptoms. It is here, where medically unexplained symptoms present, that a combined neurologic-psychiatric perspective is essential for diagnosis and management. To make the presentation both academically informative and clinically applicable, an overview of each of the disorders in the somatiform disorders (SDs) classifications is reviewed. The DSM-IV classifications included: Somatization Disorder, Undifferentiated Somatiform Disorder, Conversion Disorder, Pain Disorder, Hypochondriasis, Body Dysmorphic Disorder, and Somatiform Disorder Not Otherwise Specified. A comparison to the DSM-5 will be discussed [1, 2]. A number of these disorders are often encountered in medical and neurological clinical settings. Examples of the examination in patients in the clinic with somatoform disorders are given to aid in discerning distinguishing characteristics and semiology of the presentations.

Of equal importance is the discussion of patients who present with medically unexplained symptoms that diagnostically are not a somatoform disorder in nature. Examples include Factitious disorder and Malingering.

Brief mention is also made of current diagnoses including chronic fatigue syndrome, fibromyalgia, chronic Lyme, and multiple chemical sensitivities, which have elements of somatoform and other Axis I components.

The descriptive overview is followed by presenting diagnostic and treatment research in somatiform disorders that is found in the literature and that we are conducting at Brown Medical School/Rhode Island Hospital.

The key points that will be discussed in the presentation are as follows:

1) There is a plethora of observational, phenomenological and diagnostic information on Somatoform disorders.
2) There is no serologic or imaging lab test that will definitively diagnose somatoform disorders. Nonepileptic seizures (NES), however, are diagnosed with video EEG, the gold standard for NES diagnosis.
3) We have only a small but growing body of controlled data on somatoform disorders treatments.
4) Anxiety and depression occur commonly in patients with somatoform disorders.
5) Reviewing the extant literature on soma toform disorders treatment suggests that improved outcomes may be obtained with intensive, multi-modal treatment of patients with somatoform disorders.

Body (Please see instructions for formatting details):

A Summary of Somatoform Disorders
[based on the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)] [3]

**Somatization Disorder**
Diagnostic features
Multiple and recurring somatic complaints that begin before the age of 30 years and occur over several years, resulting in medical treatment or impairment of important areas of functioning (i.e. socially, occupationally, etc.).

**Undifferentiated Somatoform Disorder**
Diagnostic features
Undifferentiated Somatoform Disorder is the category for somatoform presentations of one or more persistent physical complaints that last for 6 months or more. These somatoform presentations do not meet the criteria for Somatization Disorder, lacking the number of symptoms, the age of onset, and the timeline.

**Conversion Disorder**
Diagnostic features
Conversion symptoms are changes or deficits in voluntary motor or sensory functioning that are not are explained by structural anatomical pathways or physiological mechanisms and are not intentionally produced. Motor symptoms or deficits include impaired balance, coordination, gait, paralysis or paresis, aphonia, dysphagia, urinary symptoms or seizures. Sensory symptoms include anesthesia or dysesthesia, diplopia, amaurosis, deafness and hallucinations. Psychological factors are judged to be associated with the symptoms or deficits.

**Pain Disorder**
Diagnostic features
Key features of Pain Disorder are that the pain itself is grave enough to warrant clinical attention and is the primary focus of the clinical presentation. Psychological factors are judged to play a significant role in the onset, severity, exacerbation, or maintenance of the pain. Subtypes are described that best characterize the factors involved in the etiology and maintenance of the pain. These include “associated with psychological factors,” “associated with both psychological factors and a general medical condition,” and the final subtype, “associated with a general medical condition,” which is not considered a mental disorder.

Hypochondriasis
Diagnostic features
Individuals with Hypochondriasis are preoccupied with unwarranted concerns of having a serious disease despite multiple medical reassurances and a negative work up. The preoccupation is based on a misinterpretation of one or more bodily sign or symptom, which could include bodily function, with minor physical abnormalities, or with vague and ambiguous physical sensations.

Body Dysmorphic Disorder
Diagnostic features
Individuals with Body Dysmorphic Disorder are preoccupied with thoughts concerning imagined or slight defects in their appearance. Such individuals may become extremely self-conscious and avoid work, school, and other public settings. Areas of concern include hair thinning, acne, wrinkles, scars, vascular markings, pale or plethoric complexion, swelling, facial asymmetry or disproportion, or hirsutism. Size or shape of other facial or bodily areas are also common preoccupations. The thoughts may dominate their lives, spending hours a day thinking about their “defect.”

Somatoform Disorder Not Otherwise Specified
Diagnostic features
‘Somatoform Disorder Not Otherwise Specified’ is the category for somatoform symptoms that do not meet the diagnostic criteria of any specific Somatoform Disorder. An example of a disorder in this category is Pseudocyesis, (i.e. a false belief of being pregnant associated with objective signs of pregnancy, such as abdominal enlargement, reduced menstrual flow, amenorrhea, subjective sensation of fetal movement, nausea, breast engorgement and secretions, and labor pains at the expected date of delivery).

Factitious Disorder
Diagnostic features
An individual with Factitious Disorder is psychologically driven to assume a sick role, thus feigning psychological or physical symptoms with no external motives. Symptoms or signs may be fabricated subjective complaints, self-inflicted conditions, exaggeration or exacerbation of preexisting general medical conditions, or any combination of these. The judgment that a particular symptom is intentionally produced is made both by direct evidence and by excluding other causes of the symptom. An individual may deny taking medication for an illness even though blood tests state otherwise (e.g. hematuria in a person with an elevated coag panel found to have anticoagulants in his possession). They may present their history with dramatic flair, but with extreme vagueness and inconsistency. Some may engage in pathological lying about the symptoms (i.e., pseudologica fantastica). Once recognized and confronted, inpatients with Factitious Disorder, (also known as, “Munchausen’s syndrome”) may deny allegations or abruptly leave against medical advice.

Factitious Disorder Not Otherwise Specified (including by Proxy)
Diagnostic features
Disorders with factitious symptoms that do not classify as Factitious Disorder are categorized as ‘Factitious Disorder Not Otherwise Specified’. An example of a ‘Factitious Disorder Not Otherwise Specified’ is factitious disorder by proxy, when an individual indirectly assumes a sick role by intentionally producing a feigned physical or psychological condition on another person, such as a sibling or child, who is under that person’s supervision. As with Factitious Disorder, there is no external incentive involved.

Malingering
Diagnostic features
Malingering IS NOT a psychiatric condition but refers to the exaggeration or feigning of physical and psychological illness to achieve personal motives, such as avoiding obligations at work, school, or the military. Individuals may also resort to malingering to obtain drugs, financial compensation, win a law suit or avoid jail time.

Advances in somatoform diagnostic research
Diagnostic Measures
A common concern with diagnoses in the Diagnostic and Statistical Manual of Mental Disorders–IV is that psychiatric diagnoses have no physiologic correlates. While aggregate data on depression and anxiety states have revealed alterations in the hypothalamic-adrenal-pituitary (HPA) axis, [4, 5] these findings are not applicable to the diagnosis of individuals with major depressive disorders or post traumatic stress disorders. NES are the neuropsychiatric exception to
this rule, with diagnosis validated by a physiologic measure -- the gold standard, video EEG, which has excellent interrater reliability [6], and with adjunctive differentiation from epilepsy using serum prolactin assay [7].

Neuroimaging studies in somatoform disorders
A study of 11 patients with NES and 12 healthy controls comparing resting state fMRI revealed stronger connectivity values between areas involved in emotion (insula), executive control (inferior frontal gyrus and parietal cortex) and movement (precentral sulcus) [8].

Structural neuroimaging (morphometric MRI) in 10 patients with conversion disorder compared to healthy controls revealed smaller mean volumes of the left and right basal ganglia and smaller right thalamus in the conversion patients [9]. Studies using SPECT and functional MRI have identified the anterior cingulate gyrus and the orbitofrontal cortex as potentially mediating the hypothesized attention and inhibition findings seen in patients with sensory and motor conversion disorders [10, 11]. Bilateral vibrotactile stimulation in three patients with sensory conversion disorders resulted in activation of the contralateral primary somatosensory region (S1), but no contralateral activation was present during unilateral stimulation of the affected limb [12].

Other case reports and small sample-size functional neuroimaging studies in patients with conversion disorders have been appearing in the literature increasingly [13, 14], but it is premature to “localize the conversion lesion.” Sensory gating may be affected in conversion disorders such as PMD [15]. Further studies of functional neuroimaging examining striatothalamocortical circuits controlling sensorimotor function and attention may yield insights into the neural and effective connectivity in NES and other somatoform disorders.

Management

Treatment of SDs involves a team approach and consists of correct diagnosis, presentation, acute and chronic management. Along with diagnosing the presentation, identifying the associated comorbidities is important for treatment. Most psychopathology underlying SDs is often due to one of two issues: psychosocial developmental environment or prior trauma and abuse. In recent years, research has focused on psychopathology of the disorder, classification of the diagnosis, and development of outcome measures. This focus on psychopathology has led to the development of targeted treatment strategies that can be tested in hypothesis driven studies.

The treatment team involves the clinician to whom the patient presents (which is typically symptom matched to the medical specialty for the organ, e.g. chest pain to the ER/cardiologist, or seizure to the ER/neurologist). Once the appropriate tests have confirmed the absence of an anatomic/physiologic cause, a mental health professional (psychiatrist/psychologist) is called in to “rule out conversion.” If the consult is not obtained in the inpatient setting, many times, outpatient follow up does not occur. If the diagnosis is established and clearly conveyed to the patient and the family, outpatient follow up can be established, where therapy can be initiated. The clinician to whom the patient presented should continue to follow the patient as they are being treated by the mental health provider for continuity of care and to mitigate unnecessary further testing.

Different types of treatment strategies have been used for management of SDs, including group therapy, family therapy, cognitive behavioral therapy (CBT), antidepressants, and rehabilitation [16]. Behavioral modification has been used, as opposed to utilizing a cognitive or psychodynamic approach, in some populations, with the hypothesis that psychogenic neurological events are a “reinforced” behavior, especially in the intellectually deficient subpopulation. Recently, specific treatments have been studied in systematic, controlled trials for the management of SDs [17]. One type of therapy that has been used for various psychological and psychiatric disorders, including SDs, medically unexplained symptoms and conversion disorders, is CBT [18]. CBT is a form of psychotherapy that can be administered as a time-limited treatment to help a patient become aware of their dysfunctional thoughts and to maximize function by practicing new ways to think about their symptoms and learning new ways to respond to them.

Conclusion

Patients with somatoform symptoms remain a conundrum in the neurologic and the psychiatric clinic. There may be a number of interventions that may be effective, but in the absence of adequately powered phase III trials, we do not know what the best treatment for somatoform disorders are [19]. The challenges in the difficult neuropsychiatric population with somatoform disorders, many times having comorbid neurological and psychiatric disorders, were described in a study examining methodology for NES treatment trials [20]. Building on data from smaller sampled studies[21], a multi-site randomized controlled trial for NES revealed improvement in patients treated with an NES workbook [22]. The advances made in NES from utilizing a multidisciplinary approach [23], and results from these trials will possibly have implications for other somatoform disorders’ treatments.

CME Answers (Use lowercase letters if it’s an a/b/c option; feel free to include a description next to the correct answer):
1. a. The patient’s understanding of the disorder, b. The presence of current psychiatric symptoms, c. The impact of the symptoms on the patient’s life, work, and family, d. Past psychiatric history, e. All of the above. Correct Answer: E.

2. a. Serum prolactin, b. Routine EEG, c. History alone, d. Video EEG capturing a typical event. Correct Answer: D.


References: (Author(s) Last Name separated by a Comma, Title/Article, Source (i.e. Journal Name), Volume #, Page #, Year)


