Psychogenic Speech Disorders in People with Suspected Neurologic Disease:

Diagnosis & Management

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Some Facts

- Unexplained physical symptoms in people w/o relevant organic pathology, but with relevant psychosocial distress, account for ~ 45% of visits to general medical clinics (Tucker et al., 1997).

- ~ 11% of patients seen in certain neurology outpt clinics have Sxs not explainable by organic disease (Carson et al., 2000b).

- Such problems account for significant % of health care costs. They can create disability whether or not physical disease is present (Carson et al., 2000b; Katon and Walker, 1998).

- Anything that disrupts normal brain functions has the potential to cause emotional or cognitive Sxs (Tucker et al., 1997).
Some Facts About Speech

- Speech can be altered by psychological disturbances.
- Psychogenic speech disorders (PSDs) can present in context of suspected neurologic disease.
- Psychogenic & neurogenic speech disorders can co-occur.
- Speech disorders in people with neurologic disease can be psychogenic in origin & vice versa.
Some Diagnostic Tenets

- The distinction between MSDs and PSDs can be difficult.

- It is important to recognize lawful manifestations of MSDs & features of speech incompatible with neurologic disease.

- Distinguishing between MSDs and PSDs can contribute to diagnosis of neurologic and psychiatric disorders.
Psychogenic Speech Disturbances

A wide variety of speech disorders that represent manifestations of one or more types of psychologic dysequilibrium, such as anxiety, depression, conversion reaction, or personality disorders, that interfere with volitional control over any component of speech production.

(adapted from Aronson, 1990)
Etiologies

- Depression, manic depression, schizophrenia
- Volitional Disorders
- Somatization Disorder
- Conversion Disorders
- Stress

Probably the most common causes of PSDs seen by SLPs
Neurologic Disease & Depression

- ~1/3 with neurologic disease have severe depression or anxiety
- One of most common emotional sequelae after TBI
- Common in PD, epilepsy, AD, MS, Huntington’s dz
- Occurs in ~ 50% of unselected stroke patients
- May not simply be reactive
Somatoform Disorders

Unintentional physical symptoms that suggest a general medical condition that are not explained by a general medical condition.

- Pathologic beliefs/attitudes lead to somatic sx
- Pts believe they are ill & become hypervigilant & overinterpret normal somatic stimuli
- Normal autonomic functions become distorted by intrusion of conscious attention (“spectatoring”)
Conversion Reaction
(subtype of somatoform disorders)

Alteration or loss of physical functioning that suggests a physical disorder but is actually an expression of psychologic conflict, is not consciously or voluntarily produced, and cannot be explained by any pathophysiologic mechanism.

- May mimic physical signs of neurologic disease.

From DSM III
Conversion - Incidence & Prevalence

- Prevalence ~17% of primary psychological illnesses that present with neurologic Sxs.
- Higher prevalence in certain cultural subgroups but...
- Prevalence changes as function of changing social, economic, & educational conditions.
- Overall more prevalent in women but frequent in men in combat situations.
- Higher concordance rates in monozygotic twins; increased risks in relatives, especially women.
Conversion - Psychologic Traits & Comorbidity

- Depression in 52-94%
- Schizophrenia; dependent, histrionic, antisocial personality, or passive-aggressive personality
- Hx of sexual abuse, incest, drug abuse
- Immature/shallow; tendency toward lower intelligence or socioeconomic status

- May occur in psychologically stable people who are in unusually stressful situations!!!
Conversion Disorder – Diagnostic Clues

- Sensory or voluntary motor system
- Atypical/bizarre quality to complaint
- Hx of frequent, minor health probs/current stress
- Presence of model for sx
- Symbolic significance
- La belle indifference
- Primary or secondary gain
- Reversible
Conversion & Neurologic Disease

- Sx often neurologic in character - mimic neuro dz to varying degrees
- More common on L (?role of R hemisphere)
- High incidence in TBI, MS & other neurologic injuries
  - - ? biologic mechanisms
- Evidence of organic pathology in ~50% of those with conversion referred to neuro. center (Marsden ‘86); but ~3% in pts admitted to psychiatric hospitals (Roy ‘79)
Conversion & Neurologic Disease (cont.)

- 15-30% with conversion reaction diagnoses have organic disease, often neurologic disease.
- Some neuro diseases may predispose to conversion & provide a model for it (e.g., pseudoseizures in people with Sz disorders).
- OR neurologic Dz may be sufficiently subtle, nonspecific or unusual in presentation to be mistaken for nonorganic dz.
Another Complicating Factor

**Somatic Compliance** - tendency for conversion symptoms to develop in an organ affected by organic disease; e.g.,

- psychogenic seizures in those with seizure disorders
- psychogenic aphonia in those with vocal cord weakness

(Sapir & Aronson, ‘87,’90)
Conversion - Course/Prognosis

- Tend to be abrupt in onset; may remit rapidly
- Often emerge with acute stress/trauma but may be delayed re “true” cause
- Best prognoses
  - recent, abrupt onset - identifiable precipitant - good premorbid health - no major psych. or organic illness
- Those with intermittent Sx or little disability more resistant to improvement
- Type of Sx and insight not related to improvement
- Persistent Sxs seen more frequently in tertiary care settings
Stress !!!

Definition: A state of bodily or mental tension resulting from factors that tend to alter equilibrium.

- Normal part of life - can invigorate sense of well being & accomplishment
- Comes from many sources (work, family, social relationships, events)
- Occurs in people with or without psychiatric disease
Psychologic Stress - Mechanisms

- People may be predisposed by personality, social or cultural bias, early learning, or physiologic makeup to hyperreact to stress through a particular neuromuscular or visceral structure.

- If predisposed & then exposed to interpersonal difficulties that stimulate internal conflict, the conflict/stress can be channeled into musculoskeletal tension.

- e.g., laryngeal muscles are susceptible to emotional stress (muscle tension dysphonia, psychogenic aphonia, etc.).
Stress - Organic & Psychogenic Interactions

- Specificity $H_o$ - Specific stimulus elicits distinctive response or illness; organ affected is determined by genetic weakness/vulnerability (e.g., “phononeurosis”; “laryngoresponder”) (Alexander ‘50)

- Organic disease may precede psychogenic response - It may “direct the somatization of psychodynamic conflict” (Milutinovic ‘91) (e.g., URI preceding psychogenic voice disorder)
Speech Manifestations of Psychogenic Disorders

- Aphonia
- Dysphonia
- Spasmodic dysphonia
- Stuttering-like behavior
- Pseudoforeign dialect
- Infantile speech
- Other prosodic disturbances
- Other speech-voice-resonance-articulatory disturbances

Most common
Distribution of PSDs

Voice disorders = 80%

- aphonya 30%
- hoarseness 22%
- SD 14%
- high pitch 6%

Fluency, Prosodic, & “other” PSDs = 20%

- stuttering 11%
- articulation 3%
- dysprosody 3%
- infantile speech 2%

N = 215 (Mayo Clinic, 1987-90)
Psychogenic Voice Disorders

- Musculoskeletal tension disorders
- Conversion voice disorders (aphonia & dysphonia)
- Spasmodic dysphonia
- Iatrogenic voice disorders
- Inertial aphonia/dysphonia
“...personality traits predispose one to develop these disorders... Moreover, by virtue of its enduring nature, personality serves as a persistent diathesis, rendering an individual vulnerable for recurrence of symptoms.”

(Roy & Bless, 1998, p.128)
Hypervigilance & Voice Disorders

Some individuals may be hypervigilant concerning their internal body environment (spectatoring).

- Ambiguous sensory changes in the larynx as a result of infection, edema, reflux, or emotional states may be perceived as threatening & cause increased arousal.
- Further resources are directed to circumlaryngeal area & inhibition may occur.
- Sustained motor inhibition without appropriate release leads to unnecessarily high muscular tonus, leading to partial or complete voice loss.
Conversion Aphonia & Dysphonia

- Common conversion sx & often investigated as manifestation of neuro disease (M.G., M.S.)
- May have symbolic significance
- Onset often sudden; often with flu or cold
- Hx of acute or chronic emotional stress & previous voice loss or other conversion Sx
- Evidence of primary or secondary gain
- May be unimpressed with improvement
Iatrogenic Voice Disorders

Induced by actions of clinician

- Dependent on suggestibility & other psychological characteristics of patient
- May represent unconscious hostility toward surgeon or other Healthcare providers
- May represent fear of consequences of speaking (e.g., unnecessary voice rest)
Inertial Aphonia/Dysphonia

May occur in those with neurologic voice disorders, laryngeal pathology, or in response to psychological influences.

- Pts seem to lose sense or feel for volitional phonation
  (Aronson’90)
- May explain persistence of aphonia in some TBI patients.
- May explain persistence of psychogenic voice disorders after triggering events no longer active.
Adult-onset Stuttering

- Stuttering-like behavior can develop in adults
- It can be neurogenic (NS) or psychogenic (PS) in origin
- PS can occur in people with neurologic disease & vice versa
- NS & PS can be distinguished from each other but not always easily
- Treatment of PS can be rapidly successful
Neurologic Stuttering (NS)
Associated Deficits & Nature

Can occur in isolation but often assoc. with
- aphasia (no specific “type”)
- apraxia of speech
- dysarthria (hypokinetic > others?)

Nature
- byproduct of aphasia and MSDs?
- disruption of equilibrium in bilaterally innervated system?
Neurologic Stuttering - Clinical Characteristics

- Sound/syllable repetitions, prolongations, blocking
- may not be restricted to initial syllables
- may include content as well as function words
- awareness of dysfluencies but without significant anxiety/struggle
- may not show adaptation effect or improvement with choral reading or singing
Neurologic Stuttering

**Etiologies**
- Stroke & TBI most common
- also reported in PD, PSP, dementia, SZ disorders, dialysis dementia, tumors, anoxia, bilateral thalamotomy, drug toxicity/abuse

**Localization**
- Brain stem, cerebellum, R or L hemisphere, frontal white matter
- more persistent with multifocal/bilateral lesions
- may develop without identifiable lesions
Psychogenic Stuttering

*Baumgartner & Duffy (‘97) - retrospective study of 49 cases with PS without neuro dz (PS) & 20 people with PS + neuro dz (PS+ND)*

*For both groups:*
- 1:1 male:female
- age @ onset ~ 46 years (majority <50)
- Handedness & ed similar to general population
- time post onset: < 10 days (11%); > 1 year (25-33%)
- Most in both groups had concerns about other motor, sensory or cognitive functions
Speech Characteristics (Psychogenic) - Both Groups
(Baumgartner & Duffy, ‘97)

- Sound & syllable repetitions most frequent dysfluency.
- Unvarying, intermittent, or unpredictable.
- Speech rate fast or slow.
- > 50% had struggle behavior!
- 10% had telegraphic or infantile grammatic structure.
- Some were unvarying under any observed circumstance
- Others varied according to task, environment, time of day.
- > 50% in both groups improved to normal/near normal in 1-2 sessions!
Other PSDs - Articulation

- Most often raise questions about flaccid, hypokinetic, hyperkinetic dysarthria or structural abnormalities.
- May follow traumatic injury to oral structures.
- Not usually subtle, if conversion.
- May be bizarre & associated with abnormal tongue posturing.
Other PSDs - Resonance

- Oral/sinus surgery
- May be difficult to distinguish from oral/nasal structural deficits or from flaccid dysarthria
- Secondary gain/malingering a ? when litigation involved.
Other PSDs - Prosody

- Most often seem assoc. with conversion, somatization disorders, ? malingering.
- May have deaf-like character or pseudoforeign accent. When the latter, ? neurologic disease.
- More often seen in context of suspected neuro disease than peripheral structural disease.
Other PSDs - Infantile Speech

- Usually accompanied by nonvocal affective behaviors that are child like.
- Often include infantile prosody & developmental errors (r, l, lisp).
- Neuro disease usually suspected & other motor problems present.
- May reflect conversion, hysterical personality, other psychopathology.
- May serve purpose of avoiding interaction on the adult plane.
Other PSDs - Mutism

- May occur in schizophrenia, severe depression, conversion disorder
- May be mistaken for neuro disease
- Make no attempt to speak or mouth words without whispering
- No dysphagia; cough is normal
- Initiate writing to communicate
- Little distress
- Organic mutism after neurologic insult may persist on psychogenic (inertial?) basis after neuro barriers to speaking abate.
Hx findings that support psychogenic Dx

- Onset at time of physical (but not neuro.) or psychological trauma
- Ongoing pattern of probs from distant traumatic event
- Occasionally emerges in anticipation of trauma
- Prior hx of unexplained speech or physical deficits
- Evidence of primary or secondary gain
- Unexplained fluctuations or situation specific problems
- Denial of psychological influences
Speech Examination - Important Questions

- Is oral mechanism exam consistent with speech abnormalities & patterns of abnormality found in neurologic disease?
- Is the speech deficit consistent?
- Is it suggestible or distractible?
- Does speech fatigue in a lawful manner?
- Is the speech deficit reversible?
Criteria for Diagnosis of PSD

- Symptom incongruity
- Symptom psychogenicity
- Symptom reversibility

adapted from Sapir (‘95)
Caveats

- All neurologic speech disorders have not been recognized.
- Neurologic & psychogenic disorders can co-exist.
- Somatic compliance
- The company symptoms keep can aid diagnosis but diagnosis is best not made by default.
- Unknown etiology is a legitimate diagnosis.
Management: Basic Tenets, Principles & Guidelines

- Many PSDs can be managed effectively by SLPs.
- Prognosis is generally good.
- Symptoms & explanations must be addressed.
- Pt’s belief that problem is organic must be addressed.
- Treatment should be attempted in diagnostic session.
- A variety of symptoms respond to similar techniques.
Management - Basics (cont.)

“No one is a greater failure than the medical officer who wishes all hysterics could be shot at dawn.” (Henry Head, 1922)

- Clinician attitude & manner are crucial.
- When tx is rapidly successful, the pt must have an explanation for it.
- The future must be addressed.
- No everyone wishes to be helped, is ready to be helped, or can be helped.
Treatment - Psychogenic Voice Disorders

- Musculoskeletal reduction is most popular & perhaps most effective.

- Most effective if problem due to musculoskeletal tension alone, early postonset, or if underlying psychologic triggers no longer active.

- Presence of neuro disease does not preclude success.

- Some respond to psychiatric tx of conversion or anxiety.

- Some spontaneously remit.
Treatment - Psychogenic Stuttering

- Little data but can be quite effective, perhaps as effective as behavioral tx for voice disorders.
- Theme similar to that for voice disorders/musculoskeletal tension reduction.
- Laying on the hands may be important, as it often is for voice disorders.
Management - Other PSDs

- They probably have underlying psychodynamics similar to voice & stuttering.
- If so, same general principles & techniques probably apply.
- Specific techniques vary primarily as function of specific speech characteristics.
- Traditional techniques for modifying articulation & resonance may be effective.
Management - Other PSDs

- **Prosodic disturbances** may be accompanied by voice, fluency, resonance, or articulation problems. Sx therapy may more easily focus on them.

- **Infantile speech** - Pts often deny speech difficulty & have prominent infantile behavior. Response to sx tx may be poor, at least in absence of concomitant psychiatric tx

- **Psychogenic mutism** responds to techniques used for psychogenic aphonia.