Mutism

by:

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What is Mutism?

- Patients are unable to speak, but are conscious and alert.

- Can exist with or without:
  - Cognitive deficits
  - Motor deficits
  - Hearing loss/laryngectomy
  - Locked-in syndrome
Types of Mutism

**Neurogenic** – neurologically based
- Anarthria
- Locked-in syndrome
- Cerebellar mutism
- Apraxia of speech
- Aphasia
- Disorders of arousal
- Akinetic
- Corpus callosotomy
- Drug induced
- Apallic

**Psychogenic** – psychologically based
- Anxiety
- Stress
- Social phobia
- Trauma
- Major life changes
Cerebellar Mutism

- Occurs after surgery in the vermis of the cerebellum.
- Language and speech abilities are normal immediately post surgery, with mutism developing anywhere from 1 to 2 days later.
- Patients are cognitively alert but experience difficulty initiating oral movements and performing complex oral motor tasks.
- Mutism lasts on average 4-8 weeks and 80% of patients are left with an ataxic dysarthria.
- Primarily occurs in children due to posterior fossa tumors, but occasionally affects adults.
- Treatment involves speech therapy after mutism resolves.
Akinetic Mutism

Akinetic Mutism caused by tumors, TBI, anoxia, encephalitis, etc.:
• Total absence of spontaneous behavior and speech, however can visually track objects

Abulia:
• Lack of initiative in thought, speech, physical action and affective emotion
• Reluctance to perform simple motor activities, however has ability to do so
• Decreased speech output
• Speech characteristics are brief, aphonic, whispered, reduced in loudness, monotone

Apathy:
• Diminished motivation, however normal consciousness, attention, cognitive capacity and mood
• Able to initiate and sustain behavior, describe goals, interests and react emotionally

Location of lesion: Usually ACA, PCA, SMA and the anterior cingulated gyrus
  ◦ Reduces drive to speak drive for movements and activation of motor responses (frontal lobes)

(Duffy, 2005)
Drug-Induced Mutism

Akinetic mutism or anarthria resulting from neurotoxicity, usually as a result of immunosuppressive therapy

-Cyclosporin-A

Location of lesion: Cingulated gyrus

-Imaging studies reveal decreased density of cerebral white matter, most commonly affecting the occipital cortex, cerebellum, periventricular matter and brainstem

Case Study #1

- 35-year-old woman admitted to hospital
- On Day 5 displayed agitation, choreoathetotic involuntary stereotypical movements of the upper and lower extremities and trunk
- Tendon reflexes were brisk
- Plantar reflexes were positive
- By the 3rd week displayed akinetic mutism
- Decreased strength in the arms and legs resembling generalized dystonia
- Markedly dysarthric
- Initially able to swallow
- Severely impaired articulation
- Speech limited to one-syllable utterances

(Zaknun, J., Stieglbauer, K., Trenkler, J. & Alchner, F., 2005)
Making a Differential Diagnosis

It’s important to consider several factors:

- Previous health history
- Current status and symptoms
- Imaging studies (MRI, CT, PET)
- CSF analysis
Due to damage of the frontal lobes, all aspects of executive function may be assessed, including:

- Arousal (EEG’s)
- Cognitive processing
- Affect and drive
- Motor initiation, planning, programming and coordination
- Execution of movement
Treatment for Neurogenic Mutism

- Trial of dopaminergic therapy
  - Use of levadopa or carbidopa and bromocriptine
- Surgical intervention
- Optimize medical condition with physical and cognitive rehabilitation
- Modify environment
- Use of adaptive devices
- Behavioral intervention
Selective Mutism

- The Diagnostic and Statistical Manual, 4th edition, text revision, (2000), lists the following criteria for diagnosing selective mutism:

1. Consistent failure to speak in specific social situations in which there is an expectation for speaking, (ie: at school) despite speaking in other situations.
2. The disturbance interferes with educational or occupational achievement or with social communication.
3. The duration of the disturbance is at least 1 month (not limited to the first month of school).
4. The failure to speak is not due to a lack of knowledge of, or comfort with, the spoken language required in the social situation.
5. The disturbance is not better accounted for by a Communication Disorder (ie: stuttering) and does not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder. (American Psychiatric Association, 2000)
Case Study #2

- Major life changes, combined with anxiety and humiliation when reciting in Sunday school caused a severe stuttering problem.
- "I was a stutterer. I couldn't talk. So my first year of school was my first mute year, and then those mute years continued until I got to high school." ~James Earl Jones

(www.jimmathis.com, 2008)
Treating Selective Mutism

Assessment – The Social-Communication Anxiety Inventory (SCAI)
- Determines what stage a child is at in different situations
  - Stage 0: No responding, no initiating
  - Stage 1: Non-verbal communication
  - Stage 2: Transition into Verbal Communication
  - Stage 3: Verbal Communication

Treatment
- Individual psychotherapy to help reduce the general anxiety and to practice better communication skills

- A behavioral program to slowly shape appropriate communication
  1. Child will use non-verbal gestures to communicate.
  2. Child will use any sound to communicate.
  3. Child will use any type of speech to communicate. (Shipon-Blum, 2006)

The program initially involves the child responding at each stage and works up to them initiating before moving to the next level.
References