INVISIBLE SYMPTOMS: COGNITIVE DYSFUNCTION, DEPRESSION, AND FATIGUE

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There is marked enfeeblement of the memory; conceptions are formed slowly; the intellectual and emotional faculties are blunted in their totality. The dominant feeling in the patients appears to be a sort of almost stupid indifference in reference to all things. It is not rare to see them give way to foolish laughter for no cause, and sometimes, on the contrary, to melt into tears for no reason. Nor is it rare, amid this state of mental depression, to find psychic disorders arise which assume one or other of the classic forms of mental alienation.”
Cognition

... the process of thought

What Is Cognition?

- Thinking skills
- Understanding language and expressing yourself
- Concentrating, shifting attention, multitasking
- Learning and remembering new information
- Planning and performing complex tasks
- Solving problems
Cognitive Dysfunction in MS

- May affect 45%–70% of people with MS, usually mild
  5-10% may have severe dysfunction
- Disability and duration of MS are poor predictors -
  Not necessarily related to physical disability
  May occur early in the disease
- Is under-recognized, underdiagnosed, and
  misdiagnosed
- Self reports of cognitive dysfunction in MS can be
  confounded by depression


Cognitive Dysfunction Often Correlates With MRI Findings

- Number of lesions
- Location of lesions
  - White matter
  - Gray matter
- Presence of atrophy

Effects of Cognitive Dysfunction

- Activities of daily living
  - Household management
  - Personal care; family care
- Employment
- Recreational activities
- Relationships
- Social interactions

Domains Most Commonly Affected

- Speed of information processing
- Verbal and visual memory; acquisition and retrieval
- Attention and concentration
- Word retrieval; verbal fluency
- Reasoning and problem-solving
- Visual and spatial organization
- Executive functioning

Rao et al, 1991
Signs of Cognitive Dysfunction

- Trouble remembering
- Difficulty finding the right words
- Slowness in or inability to understand what is heard or written
- Difficulty following directions
- Trouble with decision making
- Emotional changes
- Forgetting a thought midsentence

Signs of Cognitive Dysfunction (cont)

- Poor performance reviews at work
- More hours to accomplish a familiar task
- Difficulty starting a project
- Difficulty finishing a project
- Problems balancing a checkbook
- Problems following a recipe
- Car accidents
Memory

- 22%–31% of patients are affected
- Memory of events and conversations
- Involves both learning and recall
- Short-term memory (immediate recall) is affected: may be related to poor concentration
- Long-term memory is spared


Attention and Information Processing

- 22%–25% of patients are affected
- Decreased processing speed; slowing of mental functioning
- Difficulty filtering out distractions
- Cannot focus on more than one task at a time (multitasking)

Verbal Fluency

- 22% of patients are affected
- Retrieval of words
- Expression of words


Executive Function

- 13%–19% of patients are affected
- Most apparent to others
- Difficulty understanding complex concepts
- Difficulty with organization
- Problems starting or completing projects
- Inability to solve problems or use good judgment in certain situations

Visual and Spatial Perception

- 12%–19% of patients are affected
- Affects activities of daily living
- Affects ability to drive
- Trouble operating machines
- Trouble assembling items


Language

- 8%–10% of patients are affected
- Meaningless conversations
- Significant effect on relationships

Occurrence of Cognitive Deficits

- No problems: 24%–36%
- One area affected: 43%–56%
- Multiple areas affected: 20%–22%


Other Causes of Cognitive Dysfunction in MS

- Fatigue
  - Physical fatigue has less impact on cognition than once thought
  - Cognitive fatigue: slows speed of information processing, accuracy, and reaction time
- Depression
  - Affects working memory
- Medications

When Is Cognitive Evaluation Appropriate?

- It is necessary to establish a baseline
- Changes in the patient’s abilities have been reported
- The patient’s condition is potentially treatable
- The patient is being started on a new treatment
- A patient’s application for SSDI or vocational rehabilitation is being considered
- Legal issues


Cognitive Evaluation

- Neuropsychologist
- Speech-language pathologist
- Occupational therapist
Neuropsychological Evaluation

- Battery of tests designed to assess areas of reported difficulties, as well as pre-existing and current strengths
- Full battery of tests: 6–8 hours over 2 days
- Shorter batteries have been developed for MS
- Expensive; often not covered by insurance
- Various screening tests are available

Other Cognitive Screening

- Speech Language Pathologists and Occupational Therapists may be able to do screening
- These screens are practical and allow the therapists to teach compensatory tools to improve function in all aspects of daily expectations
  - Work
  - Home management
  - Leisure
  - Personal care
Managing Cognitive Impairment

Non-pharmacologic:
- Counseling or psychotherapy
- Physical and Occupational therapy for safety strategies and environmental modifications
- Cognitive rehabilitation for coping and “compensatory strategies”, e.g. notebook pill reminder, iPad, timer
- “Brain games”

Pharmacologic
- Treatment with a disease-modifying therapy early in the disease course may reduce the number of new lesions and ultimately play a role in preventing cognitive changes
- Managing fatigue and treating depression may help with cognition

Cognitive Rehabilitation

- Addresses affective and social issues
- Teaches compensatory measures
  - Notebooks, lists, organizers
  - Time and energy management
  - Substitution strategies
- Improves QOL

Depression

- Syndrome of signs and symptoms that are episodic or clustered and both psychological and physiological
  Occurs in 3%–5% of the general population
- May occur in approximately 60% of patients with MS
- “Profound sense of discomfort or withdrawal that lasts most of every day for at least 2 weeks”

What Do We Know?

- Depression differs from normal grieving
- People with MS are at increased risk for depression
- >50% of MS patients will experience a major depressive episode at some point over the course of the disease
- Suicide is more common in MS patients than in the general population


Characteristics of Depression

- Feelings of sadness or despair
- Loss of interest or enjoyment
- Fatigue and sleep disturbances
- Appetite changes
- Inability to concentrate
- Psychomotor slowing
- Irritability or anxiety
Increased incidence in patients with MS compared to those with other chronic disabling diseases

Suggests a pathophysiological mechanism related to demyelination in the brain

Less frequently seen in patients with spinal cord disease only

Increased in patients with brain atrophy

Symptoms of depression can be confused with symptoms of MS such as fatigue and cognitive dysfunction

If fatigue is suspected, intervention may be helpful

If symptoms persist, evaluate for depression
**Diagnosis and Treatment**

- Best treatment for depression: Psychotherapy + Medication (+ Exercise)
- If the patient complains of depressed mood but doesn’t meet the criteria for major or minor depression, treatment may improve quality of life
- Encourage seeking strength in spiritual beliefs

**Depression: Implications**

MS patients who are depressed:
- Carry an additional, painful burden
- Can’t participate actively in their own care
- Can’t plan or solve problems effectively
- Are difficult to live with
Care for the Caregivers

- Depression is quite high in caregivers and family members of patients with MS
- Depression in caregivers increases as the patient’s disability increases
- Caregivers need to report signs of depression in themselves to their physicians


Emotional Lability

- Inability to control emotions
- Usually out of proportion to the degree of sadness or happiness
- May be a sign of emotional distress
- Usually responds well to antidepressants
- Neudexta (Avinir: combo of dextromethorphan and quinidine)
Facts About MS and Depression

- Depression increases with:
  - Recent diagnosis
  - Changes in or loss of physical function
  - Lack of or decreased social support
  - Presence of co-morbidities
- Younger patients are more likely to be depressed
- Men may be as likely as women to be depressed

The Good News

- Depression is one of the most treatable symptoms of MS
Management of Depression

- At every appointment with any healthcare provider both primary care or neurology, the patient should be asked about status of mood
- Monitor depression carefully, especially if the patient is on an interferon or steroids
- Refer the patient to appropriate mental health professionals as necessary
- A dual approach of medications and psychotherapy is usually most beneficial
- Exercise is a nonthreatening treatment

Summary

- Cognitive problems and depression are commonly seen in MS patients
- There is considerable crossover of symptoms between MS and depression
- Providers need to be alert to the symptoms of depression and make an attempt to diagnose and treat appropriately
Case Study

Mary is 35 and has been diagnosed with MS for 5 years. She is married with 2 young children and works full time as an office manager. She did not originally agree to take a disease modifying therapy but has been on glatiramer acetate for the past 3 years and is adherent.

Mary has not had exacerbations in the past 3 years. She is, however, complaining of new and increasing symptoms:
- Difficulty completing her usual work load
- Finding more mistakes in her work
- Received a recent performance review that was not the usual top level she previously received
- Lack of desire to do any of her “fun” activities
- Increased irritability with her husband and kids
What do you think is going on with Mary?
How would you manage her issues?
What would you do first?

Thank You!