

Cognitive, Behavioral, and Emotional Changes in Brain Tumor

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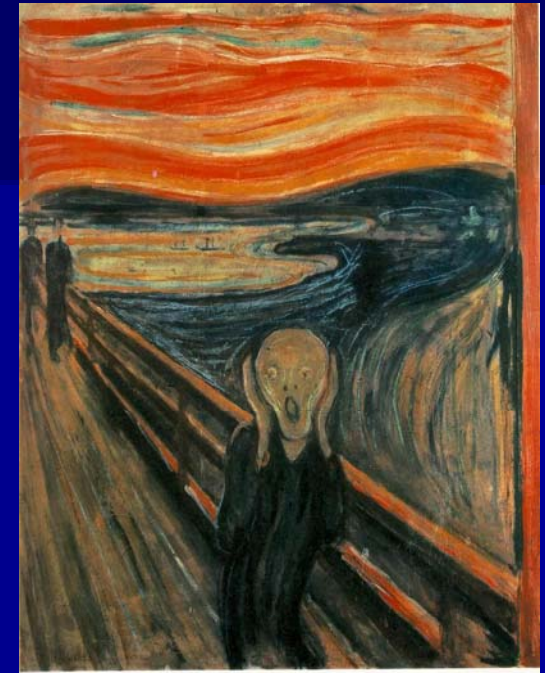
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- Many brain tumor patients face changes in memory, thinking or emotions
- It is estimated that more than half of all patients with malignant brain tumors experience some cognitive or behavioral change



I look normal, but I'm not

- Changes may be so subtle that patients themselves are more aware of their difficulties than are those around them
- Other times, it is the caregiver rather than the patient who first sees differences

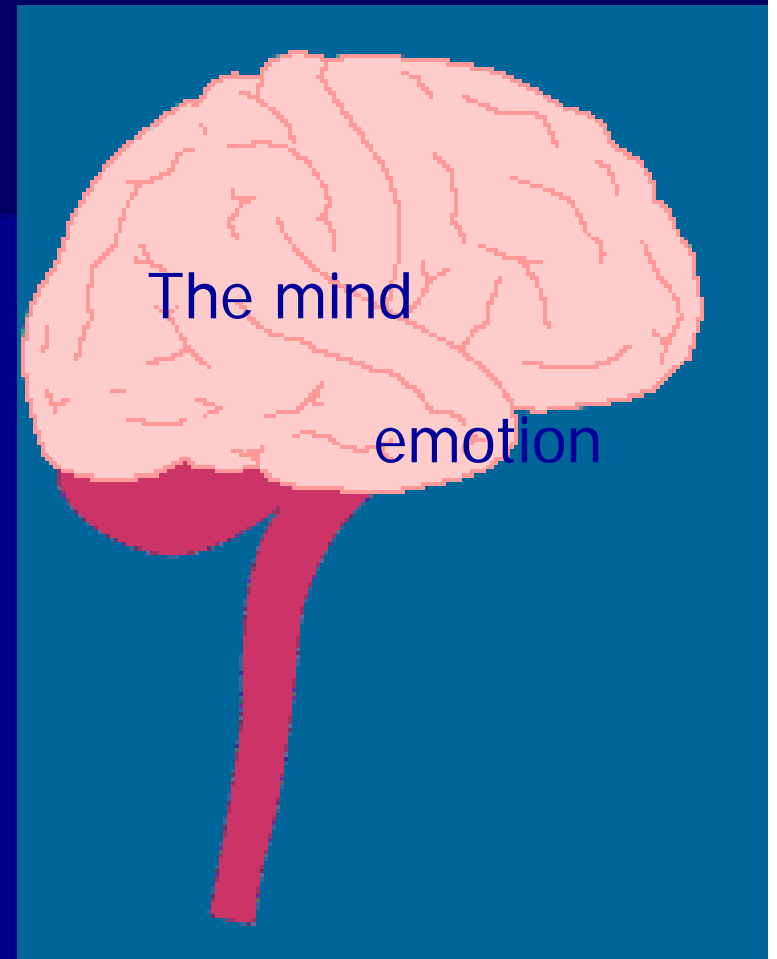


Definitions

- What is behavior?
 - The way in which a person responds to a certain set of conditions
- What is mood?
 - A pervasive and sustained emotion that colors the perception of the world
- What is cognition?
 - Thinking, reasoning and perceptual abilities
- What is personality?
 - The organized pattern of behavioral characteristics



- The mind “lives” in the brain
- Brain tumors are organic diseases with possible psychological sequelae
- Cancer diagnosis alone can cause depressed mood



Causes of Behavioral and Mood Changes

- Factors associated with the tumor
 - Location, size, rate of growth
- Psychological implications of the tumor
- Interventions to treat tumor
 - Radiation
 - Especially in children <6 and the elderly
 - Surgery
 - Chemotherapy



Common Problems and Difficulties

- Language
- Attention
- Concentration
- Learning
- Memory
- General intellectual abilities
- Emotions



Language

- Difficulty speaking
 - Word finding difficulty
 - Word fluency difficulty
- Difficulty understanding spoken language
- Difficulty writing
- Difficulty reading



Attention and Concentration

- Easily distracted
- Losing concentration
 - Even when things are of interest
- Confusion
- Disorientation
- Difficulty doing more than one task at a time



Learning and Memory

- Short term memory loss
 - Old memories retained
 - Newer information is difficult to learn and remember
- Slowed thinking
- Difficulty learning new tasks



Executive Functioning

- Difficulty with problem solving
- Impaired judgement
- Difficulty doing more than one task at a time
- Thinking is effortful and less efficient



Emotion and Personality

- Depression
- Irritability
- Anxiety
- Mood swings
- Obsessive-compulsive tendencies
- Disinhibition
- Withdrawn
- Apathy
- Changes in sexual interest



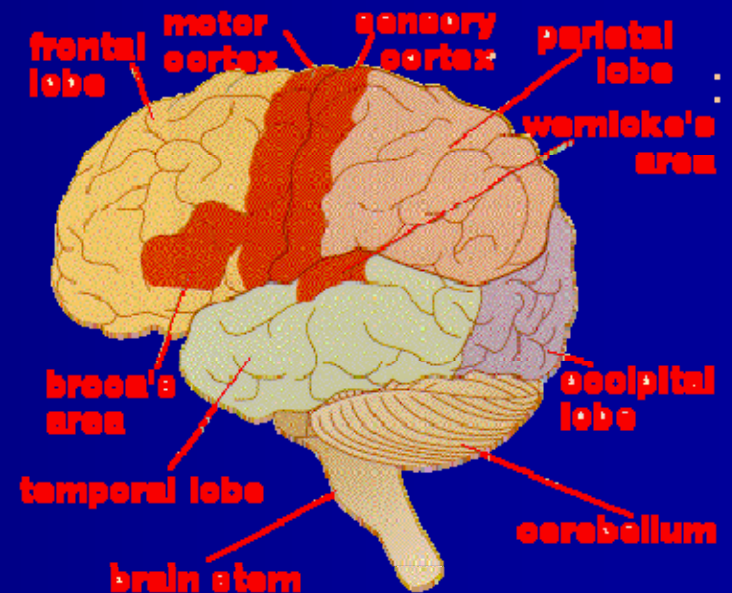
Depression

- Common in people with brain tumors
- Symptoms
 - Decreased pleasure in usual activities
 - Decreased concentration
 - Apathy
 - Withdrawal
 - Mood swings



Location, Location, Location

- Many complex behavioral and mental operations depend upon interrelated networks of neurons, widely distributed in the cerebrum
- Tumors in any area can cause behavior and mood abnormalities



Frontal Lobe

- Personality changes
- Social disinhibition
- Inattentiveness
- Decreased initiative and spontaneity
- Idleness of thought, speech and action
- Depression or euphoria



Temporal Lobe

- Language impairment
- Visual memory difficulties
- Temporal lobe seizures
 - Seizures are repetitive, consistent
 - Bizarre behavior
 - May include hallucinations
 - Rarely manifest as aggressive behavior



Parietal Lobe

- Awareness of the body and it's relation to extrapersonal space
- Loss of the ability to analyze sensations, locate body parts or recognize objects by touch
- Recognition of numbers
- Neglect syndrome



Other locations

- Occipital Lobe
 - Visual-spatial disturbances
- Thalamic
 - Attention, learning, short term memory
 - confabulation
- Hypothalamic and Pituitary
 - Hormonal body processes



Dexamethasone Effects

- Mood swings
- Irritability
- Insomnia
- Increased energy
- Difficulty concentrating
- Anxiety
- Memory loss



What do we do about it?



The Neuropsychological Evaluation

- Detailed evaluation of cognitive, behavioral, and emotional status
 - *Attention, Memory, Language, Visuospatial Processing, Sensorimotor Functions, Emotional Status*
 - *Substantially higher sensitivity and specificity than mental status screening*
 - *Standardized, with established validity and reliability*
 - *Demographics corrected norms*



Cognitive Assessment: Learning and Memory



- Basic Perception (e.g., Vision, Hearing)
- Processing Speed
- Basic Attention
- Complex Attention
- Mental Organization of Information

- Keeping Information in Memory for Later Access

- Spontaneously Recalling Information
- Recalling Information with a Reminder
- Recognizing Information that was Learned



Managing Cognitive Symptoms

- Identify Specific Cognitive Issues
- Medical Care
- Medications
- Mental Health
- Remediation
- Compensation



Cognitive Rehabilitation

- Designed to help people regain as much of their mental, physical and emotional abilities as possible
- Compensation techniques for the abilities that cannot be fully regained
- Sessions are often combined with counseling to help patients adjust to differences resulting from the tumor



Visuospatial and Language

- Visual Scanning Training
- Reading Exercises
- Word Retrieval Exercise
- Pragmatic Communication Training
- Alternative Communication Strategies



Attention

- Break Tasks into Smaller Sessions
- Establish and Environment with Minimal Distraction
- Focus on One Task at a Time
- Schedule to Minimize Fatigue
- Be Consistent
- Review for Accuracy
- Attention Exercises



Executive Functions

- Formal Problem Solving Strategies
- List Alternatives with Pros and Cons
- Consistency for Complex Tasks
- Set Aside Time to Plan Activities
- Seek Assistance and Advice
- Self Cueing / Monitoring
- Advanced Preparation
- Attention Exercises



Memory

- Repeat Information
- Mnemonic Devices
- Verbal or Visual Cues
- Written Checklists
- Structured Daily Schedule / To Do List
- Audible Alarm
- PDA
- Recording or Written Notes
- Place Items in a Consistent Location
- Memory Exercises



On-line Cognitive Stimulation Programs

- <http://main.uab.edu/tbi/show.asp?durki=49377>
 - The University of Alabama
 - For Adults
- <http://staff.washington.edu/chudler/experi.html>
 - for children



Who does Cognitive Rehabilitation??

- Neuropsychologists / Health Psychologists
- Speech therapists
- Occupational therapists
- Verify that they have experience in working with individuals with neurological issues
- Work within the coverage of your insurance benefits
 - Some may not cover “cognitive rehab”, but may cover speech or occupational therapy



Emotions and Cognition

- Anxiety, depression, and other emotional distress are distracting and make cognitive symptoms worse
- Emotional distress can impact sleep, medical compliance, nutrition, and other areas that also impact cognition
- Cognitive deficits can contribute to diminished self esteem and decreased sense of control



Signs of Depression

- Sadness
- Apathy
- Sleep Disturbance
- Changes in Appetite or Weight
- Sudden Decline in Self Care
- Attention and Memory Changes



Questions??

