

THE COURSE OF CNS INSULTS, TREATMENT & OUTCOMES

STROKE, ANOXIA, ALZHEIMER, BRAIN INJURY, HUNTINGTON CHOREA, HYDROCEPHALUS, HIV DEMENTIA, VASCULAR DEMENTIA

By: DONALD L. MICKEY, Ph.D.,
CONSULTING NEUROPSYCHOLOGIST
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STROKE

- **DEFINITION:** BLOOD FLOW PROBLEM IN THE BRAIN.
- **CAUSES:** VARIES; WEAK BLOOD VESSELS, HYPERTENSION.
- **DAMAGE:** LEFT OR RIGHT HEMISPHERE, SPEECH AREA, MUSCLE CONTROL, ETC.
- **PSYCHOLOGICAL MANIFESTATIONS:** ADJUSTMENT TO INJURY AND DEFICITS
- **OUTCOME:** BASED UPON EXPEDIENCY OF TREATMENT AND RESPONSE TO REHABILITATION.
- **RESIDUALS:** SPEECH AND GAIT.

ANOXIA OR HYPOXIA

- **DEFINITION:** LACK OF OXYGEN TO THE BRAIN, CELL DEATH.
- **CAUSES:** VARIES; HEART ATTACK, POISONS, ETC.
- **DAMAGE:** USUALLY VERY DIFFUSE.
- **PSYCHOLOGICAL MANIFESTATIONS:** SEVERE-UNAWARE OF SURROUNDINGS, REMOTE HISTORY MAY BE INTACT, SEVERE ANTEROGRADE AMNESIA. ADJUSTMENT TO INJURY AND DEFICITS VERY DIFFICULT.
- **OUTCOME:** PROGNOSIS IS USUALLY GUARDED BASED UPON SLOWNESS OF RESPONSE TO TREATMENT AND POSSIBLE CONTINUAL DAMAGE.
- **RESIDUALS:** PATIENT MAY CONFABULATE, HAVE POOR MEMORY, MENTAL CONFUSION, AWKWARD GAIT, PSYCHOSIS, PERSONALITY REGRESSION AND PRESENT WITH FRONTAL LOBE DEFICITS.

ALZHEIMER DISEASE

- **DEFINITION:** MOST COMMON CAUSE OF DEMENTIA, NEUROFIBRILLARY TANGLES AND SENILE PLAQUES SEEN AT MICROSCOPIC LEVEL.
- **CAUSES:** UNKNOWN, FAMILY HISTORY, RESEARCHING LINKS TO HIGH CHOLESTEROL AND HIGH BLOOD PRESSURE.
- **DAMAGE:** USUALLY GRADUAL AND DIFFUSE, WITH POOR PROGNOSIS.
- **PSYCHOLOGICAL AND BEHAVIORAL MANIFESTATIONS:** GRADUAL ONSET OF CONFUSION, MEMORY , IMPAIRED PROBLEM SOLVING, PERSONALITY REGRESSION.
- **OUTCOME:** PROGNOSIS IS CONTINUAL DECLINE IN FUNCTIONING, MENTAL AND PHYSICAL.
- **RESIDUALS:** PATIENT MAY CONFABULATE, HAVE POOR MEMORY, APPEAR

CONFUSED, REGRESSIVE BEHAVIOR FOCUSING ON PAST WITH CONTINUAL DECLINE OVER TIME.

BRAIN INJURY

- **DEFINITION:** INSULT TO THE BRAIN THAT MAY OR MAY NOT INVOLVE LOSS OF CONSCIOUSNESS.
- **CAUSES:** VARIES; CAR ACCIDENT , CARBON MONOXIDE POISONING, GUN SHOTS, FALLS, HEART ATTACKS, ETC.
- **DAMAGE:** CAN BE FOCAL OR DIFFUSE.
- **PSYCHOLOGICAL AND BEHAVIORAL MANIFESTATIONS:** VARIES AS TO INJURY SITE AND EXTENT OF DAMAGE.
- **OUTCOME:** PROGNOSIS IS GENERALLY GOOD DEPENDING UPON SITE AND SEVERITY OF DAMAGE.
- **RESIDUALS:** PATIENT MAY REFLECT A VARIETY OF RESIDUAL DEFICITS SUCH AS MEMORY, CONFUSION, BEHAVIORAL PROBLEMS, ETC.

HUNTINGTON DISEASE

- **DEFINITION:** INHERITED DISEASE TYPIFIED RIGIDITY, DEMENTIA, ATAXIA, AND SLOWED EYE MOVEMENTS.
- **CAUSES:** GENETIC MUTATION.
- **DAMAGE:** DEPENDS UPON ONSET, MAY PRESENT AS NERVOUSNESS AND DEPRESSION, WITH EVENTUAL PROGRESSION TO INCLUDE DEMENTIA. ONSET IS USUALLY PAST THE AGE OF 35. NO KNOWN TREATMENT
- **PSYCHOLOGICAL AND BEHAVIORAL MANIFESTATIONS:** GRADUAL ONSET OF CONFUSION, MEMORY , IMPAIRED PROBLEM SOLVING, PERSONALITY REGRESSION.
- **OUTCOME:** PROGNOSIS IS CONTINUAL DECLINE IN FUNCTIONING, MENTAL AND PHYSICAL.
- **RESIDUALS:** DEPRESSION IS USUALLY EARLY IN THE ILLNESS, DRAMATIC WEIGHT LOSS, PATIENT MAY BE ARGUMENTATIVE, IMPULSIVE AND ERRATIC, CONTINUAL DECLINE OVER TIME.

HYDROCEPHALUS

- **DEFINITION:** A DISTURBANCE OF FORMATION, FLOW OR ABSORPTION OF CEREBROSPINAL FLUID (CSF) THAT LEADS TO AN INCREASE IN VOLUME OCCUPIED BY THIS FLUID IN THE CNS.
- **CAUSES:** OBSTRUCTION OF FLOW CAUSED BY BRAIN INJURY OR MALFORMATIONS, OR PROBLEMS IN PRODUCTION EXCEEDING ABSORPTION.
- **DAMAGE:** POOR DEVELOPMENT OF COGNITIVE FUNCTIONING IN INFANTS, LOSS OF COGNITIVE FUNCTIONING IN ADULTS. 40% OF TOTAL CASES ARE ADULTS.
- **TREATMENT:** USUALLY RESOLVED THROUGH SHUNTING.
- **PSYCHOLOGICAL AND BEHAVIORAL MANIFESTATIONS:** GRADUAL COGNITIVE DETERIORATION, NECK AND HEAD ACHES, NAUSEA, VISION PROBLEMS, INCONTINENCE.

- **OUTCOME:** OFTEN CAN BE RESOLVED THROUGH SHUNTING.
- **RESIDUALS:** CAN HAVE GAIT PROBLEMS, DROWSINESS, AND GENERAL COGNITIVE DECLINE.

HIV DEMENTIA

- **DEFINITION:** A DECLINE IN MENTAL FUNCTIONING BROUGHT ABOUT BY IMMUNODEFICIENCY VIRUS (HIV) INFECTION.
- **CAUSES:** IMMUNODEFICIENCY VIRUS (HIV) INFECTION.
- **DAMAGE:** MILD TO SEVERE DEMENTIA, GRADUALLY WORSENING. AFFECTS SHORT TERM MEMORY, ATTENTION AND CONCENTRATION, BEHAVIORAL PROBLEMS AND/OR PERSONALITY CHANGE.
- **TREATMENT:** VARIETY OF MEDICATIONS, MAY INCLUDE STIMULANTS.
- **PSYCHOLOGICAL AND BEHAVIORAL MANIFESTATIONS:** GRADUAL COGNITIVE DETERIORATION. PATIENT MAY BE AGITATED, ANXIOUS, FATIGUED, DEPRESSED, AND MAY EXHIBIT MANIA AND/OR PSYCHOSIS.
- **OUTCOME:** PROGNOSIS IS USUALLY NOT GOOD.
- **RESIDUALS:** TYPICAL COGNITIVE DECLINE WITH ASSOCIATED DEPRESSION, AGITATION, ETC.

VASCULAR DEMENTIA

- **DEFINITION:** A DECLINE IN MENTAL FUNCTIONING BROUGHT ABOUT BY DIFFERENT VASCULAR MECHANISMS. NOT A SINGLE DISEASE BUT A GROUP OF SYNDROMES
- **CAUSES:** VARIETY OF CAUSES; I.E., HARDING OF ARTERIES, ARTERY OCCLUSIONS, INFARCTS, ETC.
- **DAMAGE:** MILD TO SEVERE DEMENTIA, SHORT TERM MEMORY, ATTENTION AND CONCENTRATION, BEHAVIORAL PROBLEMS AND/OR PERSONALITY CHANGES.
- **TREATMENT:** VARIETY OF MEDICATIONS, AND OPENING OF BLOCKED ARTERIES IF POSSIBLE.
- **PSYCHOLOGICAL AND BEHAVIORAL MANIFESTATIONS:** GRADUAL COGNITIVE DETERIORATION. PATIENT MAY BE ANXIOUS, DEPRESSED, AND MAY BE FULLY AWARE OF DECLINE.
- **OUTCOME:** PROGNOSIS CAN BE POSITIVE IF ADDRESSED EARLY WHEN SIGNS ARE FIRST SEEN, OTHERWISE GRADUAL DECLINE OVER TIME.
- **RESIDUALS:** COGNITIVE DECLINE.