

- T & C OF THE PATIENT WITH COMPLEX NEUROLOGICAL DISORDERS:

- TUMORS & NEUROSUGERY



ETIOLOGY

- 18,000 Primary intracranial neoplasms
- 150,000 metastatic brain tumors
- Occur all ages, peaks of incidence early childhood, 5-7th decades
- Two-thirds childhood brain tumors infratentorial
- Most adult brain tumors supratentorial

BRAIN TUMORS Classification

- Primary or Secondary
- Location
- Benign or Malignant
- Cellular Differentiation
- Tissue Type – Histological

HISTOLOGICAL CLASSIFICATION

- Gliomas – astrocytoma or glioblastoma mutiforme
- Meningiomas
- Neuromas – acoustic neuroma
- Pituitary tumors

SIGNS AND SYMPTOMS

- Papilledema
- Headaches
- Vomiting
- Change in mental status
- Seizures
- IICP
- Focal symptoms



TREATMENT

- Surgery
- Radiation
- Gamma Knife Radiation
- Chemotherapy



GAMMA KNIFE

- Noninvasive form of radiation treatment
- Intersection of 201 beams of cobalt-60
- Treats brain tumors & AVM's
- Stereotactic frame to skull

POTENTIAL COMPLICATIONS

- IICP
- Hemorrhage
- Respiratory
- Neurogenic Pulmonary Edema
- Seizures
- Infection
- Alteration in ADH regulation*



A & P REVIEW OF ADH

- Regulates body's water balance
- Hormone regulated by hypothalamus
- Stored in post. pituitary
- Released into circulation & acts on kidney's distal tubules & collecting ducts
- Increases permeability to water
- More water reabsorbed



DI & SIADH

DI or ↓ADH

- UO: 200 mL/hr*
- SG: 1.005 or <
- Serum Na+: 145 or >
- Plasma osmolality increased
- Rx: often transient problem, replace fluid vasopressin if needed

SIADH or ↑ADH

- <30 mL/hr for 2 hr
- >1.025
- Decreased; S/S if Na+ <125*
- Decreased osmolality
- Rx: fluid restriction, Na+ replacement, assess for fluid overload

Cerebral Salt Wasting (CSW)

- Primary hyponatremia
- Decreased fluid volume and decreased sodium
- Treated by fluid and sodium replacement

Selected Nursing Diagnoses

- Decreased intracranial adaptive capacity R/T postoperative edema, hemorrhage
- Ineffective tissue perfusion: cerebral R/T cerebral edema, decreased cerebral perfusion, IICP
- Acute pain R/T the surgical procedure

POST OPERATIVE
NEUROLOGIC MANAGEMENT

- Cerebral edema management
- Cerebral perfusion promotion
- Fluid balance
- Neurologic monitoring
- Respiratory status: gas exchange
