



Saturday, March 29, 2008

10:15 – 11:05 am

Track: Neuromuscular

Clinical Characteristics of Abnormal Involuntary Movements: A Review for the APN

Abnormal involuntary movements (AIMs) can be the only symptom or be part of a complex set of symptoms. In addition, patients may exhibit multiple types of AIMs as is often seen in Parkinson's disease, Huntington's disease, and other neurodegenerative disorders. One of the keys to making an accurate diagnosis is the clinician's ability to recognize, describe, and classify the AIM. This requires the clinician to take a detailed patient history, including family history, and to carefully observe the AIM. This presentation, with the aid of video, will help advanced practice neuroscience nurses identify and classify different types of AIMs including tremor, dystonia, tics, chorea, and myoclonus. This will help guide their further evaluation and treatment of the patient with an AIM.

Track: Spine

Spinal Cord Stimulation, What You Need to Know

Spinal Cord Stimulation is a treatment for a number of pain syndromes. It is being performed in growing numbers. Patient care involves knowledge of numerous concepts. The purpose of this presentation is to describe the pain theory, outline spine anatomy and dermatome levels, explain the placement of spinal cord stimulator leads and battery pack, identify complications and summarize the patient education needed for optimal patient outcomes. In addition, helpful information will be given to aid nurses in the care of these special patients when they are admitted to the hospital for other health issues. Neuroscience nurses play a critical role in the care of, and education for this population. Patient cases will be presented to illustrate key aspects.

Track: TBI

Nursing a "Dead" Patient: Taking the Journey from Brain Death to Organ Donation

Organ donation saves lives. Unfortunately, the transplantation of many vital organs is only possible through the death of another. Neuroscience nurses have the difficult task of caring for patients with severe brain injuries due to trauma or anoxia. Even with the best care, some of these patients progress to brain death. Helping families cope with the diagnosis of brain death and subsequently assisting some of them through the process of organ donation can be tremendously challenging for nurses. Also, understanding the medical need to perfuse vital organs is critical to a successful organ donation. Nurses must simultaneously manage the needs of the patient and the family while adhering to specific organ donation guidelines. A thorough knowledge of all of these domains will help neuroscience nurses successfully manage brain dead organ donors.

Track: Stroke**Interventional Neuroradiology: New Directions for Ischemic Stroke**

Stroke treatment knowledge, an important part of the neurologic nurses repertoire. Current treatment for ischemic stroke includes FDA approved intravenous t-PA and the MERCI retriever (mechanical thrombectomy). However, this field is currently evolving. The most dramatic changes are in interventional neuroradiology where new equipment and techniques are under development. In our practice we used the coronary model for myocardial infarction (MI) to develop an algorithm for rapid treatment of stroke. Currently patients identified with MI go directly to the cardiovascular lab in attempt to reverse the event prior to permanent damage. Couldn't stroke patients benefit from the same rapid response and intervention? Immediate intra-arterial thrombolysis or thrombectomy can be used as an attempt to save brain tissue. What nurses should know about interventional neuroradiology's role, how it affects their patients, and how they can help.

Track: Epilepsy**Responsive Neurostimulation for Treatment of Refractory Epilepsy**

Epilepsy is the third most common neurological condition affecting persons of all ages. Although there are over 15 antiepileptic medications on the market, approximately thirty-six percent of patients with epilepsy are refractory to medications. Treatments including surgical resection, corpus callosotomy and vagus nerve stimulation have been helpful however; there is a need for further options. Responsive neurostimulation (RNS) studies are currently underway. RNS involves the detection of abnormal electrocorticographic activity in the brain and the delivery of controlled stimulation in response. The goal of this therapy is to stop the seizure before symptoms occur. RNS is a device implanted into the skull with depth and/or subdural electrodes placed at the site of seizure origin. The electrodes are used for recording electrocorticography and delivering stimulation. During this lecture I will describe the physiology of neurostimulation procedures as well as issues surrounding patient education and care of the patient with the device.

11:15 am – 12:05 pm

Track: Neuromuscular**The Clinical and Psychosocial Challenges of Young Onset Parkinson's Disease: What Neuroscience Nurses Need to Know**

Young Onset Parkinson's disease (YOPD) affects men and women between the ages of 21-40 years of age in the US. The overall symptoms are similar to older onset Parkinson's but have unique characteristics for the younger patients. These unique clinical characteristics require a different approach for symptom management. The psychosocial impact of young onset Parkinson's disease shows that these patients are more likely to become unemployed or retire early due to their disability, have more family and marital problems, have greater depression, and a worse quality of life than older onset patients. Neuroscience Nurses need to be aware of these special challenges so they can better help their patients face and handle the symptoms and problems.

Track: Spine**Traumatic Thoracolumbar Junction Fractures**

The thoracolumbar junction is the transition from the immobile kyphotic thoracic spine to the mobile lordotic lumbar spine. Susceptible to injury, this transition zone is the most common site of spinal column fractures. Classified using multiple classification schemes, fractures are divided into compression, burst, flexion-distraction or fracture-dislocation

injuries. Neurologic compromise may or may not accompany the fracture. When neurologic deficits are present, the clinical picture can be mixed and confusing. Treatment goals include: optimize neurologic function; maximize spinal mobility; optimize pain control; and achieve spinal stability. Nonoperative treatment is with an orthosis and serial imaging. Operative treatment is employed to decompress neural elements and stabilize the spine. An understanding of the injury types and treatment options is beneficial. More importantly, an understanding of the neurologic anatomy and clinical function arising from the level of the thoracolumbar junction will enable the neuroscience nurse to provide knowledgeable care to this patient population.

Track: TBI

The New Head Injury Guidelines: What Do We Do Now?

The first Guidelines for the Management of Traumatic Brain Injury were published in 1995. Since then there have been several revisions and the companion guidelines which dealt with pediatric TBI, pre-hospital management, penetrating TBI, combat guidelines and the surgical management of TBI. In the spring of 2007, a new set of TBI guidelines was released which continues to push the care of these patients to new levels and better outcomes. In order to improve outcomes for TBI patients, it is necessary to generate strong research capable of answering key questions, and to assess, synthesize and disseminate the findings of that research so that practitioners have access to evidence-based medicine.

This lecture will provide an update as to what is contained in the 2007 Guidelines for the Management of Traumatic Brain Injury. It will also discuss ways to implement the guidelines into everyday neurotrauma nursing.

Track: Stroke

The One that Got Away—Improving the Recognition of Serious Strokes that Elude a Timely Diagnosis

An accurate and timely diagnosis that leads to prompt treatment is the foundation of excellence in stroke care. However, the diagnosis of stroke amongst patients who present with mild, vague, or aberrant symptoms eludes many healthcare professionals. Unfortunately, these mild appearing symptoms can be early warning signs of some of the most devastating stroke subtypes. Specifically, several studies indicate that patients with cerebellar infarction and aneurysmal subarachnoid hemorrhage are at a particularly high risk for misdiagnosis. Not surprisingly, an incorrect or delayed diagnosis in these cases is associated with increased morbidity and mortality. Most troublingly, diagnosis delays represent a failed opportunity to rescue a patient who is seeking care. Strategies to increase the recognition of these stroke sub-types include increasing the index of suspicion for mild complaints, remembering stroke symptoms that are not associated with the MCA favoring face, arm, speech criteria, and pursuing additional imaging for selected patients.

Track: Epilepsy

Epileptic vs. Non-epileptic Seizures: Are you seizure savvy or not?

Epileptic seizures are defined as events consisting of abnormal discharge in the brain that can result in an abrupt and temporary altered state of cerebral function (Hickey, 2003). Nonepileptic seizures are episodes of involuntary movements, behaviors or sensations that do not result in abnormal EEG discharges. These account for 20 percent of referrals to epilepsy centers (Alsaadi & Vinter Marquez, 2005). Patients experiencing nonepileptic seizures are often misdiagnosed or mistreated for epilepsy. Accurate classification of symptoms is essential for patients experiencing intractable seizures.

This is best done through video EEG monitoring in an Epilepsy Monitoring Unit. The nurse's role in recognizing characteristics of seizure types is essential to the monitoring and diagnosis of the EMU patient. This presentation will discuss classification of epileptic and nonepileptic seizures, the nurse's role and the need for specialized education in epilepsy monitoring. Video EEG monitoring segments will be shown to demonstrate multiple seizure types.

1:30 – 2:20 pm

Track: Neuromuscular

Huntington's Disease: Exploring the Impact for every Generation

Huntington's Disease (HD) is a complex degenerative neurological disorder which impacts the entire family, physically and emotionally. HD is an inherited familial disease, passed on from parent to child, who has a 50% chance of inheriting the gene. The disease presents differently from individual to individual, affecting their physical, psychological and cognitive well-being. Treatment strategies are limited at this time, historically focusing on treating the physical symptoms. Recent efforts to treat the psychological and cognitive needs assist both the patient and family with all the challenges they must face. Genetic testing, genetic counseling, family counseling are available, and case review across four generations will explore the impact of HD on the entire family.

Track: Spine

Acute Cervical and High Thoracic Spinal Cord Injury

Traumatic injury to the cervical or upper thoracic spine can cause devastating neurologic disability and a multitude of life threatening multisystem complications. The purpose of this session is to increase the nurses' knowledge about acute cervical or high thoracic spinal cord injury so that they can provide the most effective care for patients with these injuries. This presentation will differentiate the various types of spinal column injuries and explain the pathophysiology of spinal cord injury. Explanation of spinal cord injury pathophysiology will provide the scientific basis for assessment strategies and therapeutic interventions employed to treat acute traumatic spinal cord injuries. Abnormal neurologic assessment and monitoring findings will be interpreted. Evidence-based rationale for various therapies currently used to treat spinal cord injuries will be described. Therapeutic interventions under investigation will be reviewed and suggestions for future trends in treatment and nursing research will be provided.

Track: TBI

Chilling Brain to Cheat Death: Improving Patient Outcomes After Cardiac Arrest

Mortality for out-of-hospital cardiac arrest has been estimated as high as 95%. Although Level I evidence recommends therapeutic hypothermia to prevent anoxic brain injury in this patient population, few hospitals have implemented the same. This presentation details the implementation of a hypothermia protocol for cardiac arrest patients within an academic, community Magnet hospital. The effort included a multidisciplinary team of neuroscience and cardiac nursing, medical and ancillary specialists, who selected the equipment and determined practice guidelines associated with each of the three therapy phases: induction; maintenance; and, re-warming. Consensus issues included inclusion/exclusion criteria; drug regimens; nursing care; and, interventions for potential complications. Since 2005, 30 patients participated in this therapy, with 40% meeting the good or moderate cerebral capacity category on the Pittsburgh Cerebral Performance scale. This offering will stimulate neuroscience nurses to be visionary and advocate for implementation of hypothermia for cardiac patients within their organization.

Track: Stroke**Creation of an RN swallow screening program for stroke patients**

The JCAHO stroke certification program is asking for documentation to support that a swallow screen is provided for ischemic stroke patients prior to oral intake. At our hospital this process was not very well defined.

Our multidisciplinary team consisting of an MD, RN, CNS, and Speech and language pathologist (SLP) developed an RN swallow screening policy and algorithm that shifts the responsibility for this initial assessment from the SLP to the bedside RN. The policy addresses patient criteria which is appropriate for an RN to screen as well as when an assessment is more appropriately performed by the SLP.

The plan to educate nurses working in the neurological care units consists of watching the video and completion of a competency assessment tool. Follow up to this swallow screen initiative has shown an increase in documentation and screening from a baseline of 71% to 92% for the ischemic stroke patient

Track: Epilepsy**The Journey of Building a Pediatric Epilepsy Monitoring Unit: The Nursing Perspective**

Advances in medical technology are creating new opportunities for effective treatment of pediatric epilepsy. As Epilepsy Monitoring Units (EMUs) are becoming more common there is a recognized need to develop evidence-based nursing guidelines to direct the care of these patients. The goal of treatment in the pediatric EMU is to evaluate children with seizures and determine optimal treatment, which may involve aggressive surgical intervention. Caring for these patients creates unique challenges for the bedside nurse including: management of patients who are taken off seizure medications, knowledge acquisition regarding technological advances, assurance of patient and nurse safety, and family ability to cope with extended stressful hospital admissions. The presentation will describe the nurse's perspective in the development of evidence-based EMU nursing guidelines on a pediatric neuroscience unit.

2:50 – 3:40 pm

Track: Neuromuscular**A Neuroscience Nurses Role in Primary Injury Prevention**

The neuroscience nurse frequently provides direct care to clients suffering from the effects of traumatic injury. All too many times health care providers simply shake their heads and express the sentiment that "something" could have prevented a needless tragedy. Neuroscience nurses can develop and implement effective strategies to increase knowledge of risk factors and reduce morbidity and mortality related to primary traumatic injury. Successful activities match age-appropriate educational activities to age-specific injury patterns. Programs including child passenger safety activities, parental education, school based instruction, trauma simulations, and fall prevention are utilized. Developing community partnerships is a vital means to potentiate and reinforce efforts. Evaluation is an important program component to make sure that efforts are efficacious and cost-effective.

Track: Spine**Worm Sign – Neurocysticercosis**

Neurocysticercosis (NCC) is a common parasitic disease prevalent in developing countries. Recently the incidence has increased in the United States due to the growing immigrant population and improved neuroimaging techniques. Infection occurs when the

eggs of the tapeworm (*Taenia solium*) are ingested from contaminated water or food. Clinical features depend upon factors which include the number, type, size, location and stage of development of cysticerci, as well as the host's immune response. Central system sites frequently infected are the parenchyma, subarachnoid space, basal cisterns and ventricles. Diagnosis is based upon neuroimaging studies, lab analysis of cerebral spinal fluid and antibody detection in the serum. Treatment depends on the pathology. Combined medical and surgical treatments are used with subarachnoid/cisternal and intraventricular NCC. The case study approach will illustrate the different presentations, diagnostic studies and treatment approaches used for 3 patients with NCC. The nursing care and responsibilities will also be discussed.

Track: TBI

Mild traumatic brain injury- symptom identification and management

It is estimated that 450,000 people seek emergency medical care annually for traumatic brain injury (CDC, 2007). It is assumed that many more people sustain mild traumatic brain injury (TBI) but do not immediately seek medical attention. Therefore, the true incidence is unknown. Sequelae associated with TBI can lead to loss of productivity and chronic health concerns. Some symptoms, including headache, nausea, dizziness, cognitive, or emotional lability are self-resolving but occasionally may persist. This presentation seeks to identify common post-traumatic symptoms and offer evidence-based treatment options to improve quality of life and productivity in this large patient population.

Track: Stroke

The NIH Stroke Scale: Its Importance and Application in Stroke

The National Institutes of Health Stroke Scale (NIHSS) is an assessment tool for the stroke patient. Originally used as a research tool to determine severity of stroke, it is now widely used to standardize assessment and language for all team members. The NIHSS can help identify possible location of the stroke, provide early diagnosis and help determine eligibility for various interventions and potential for complications. Identifying specific abnormal neurological findings assists the nurse in developing an individualized plan of care for the stroke patient that can ultimately affect outcome. The purpose of this session is to provide insight into the importance and application of the NIHSS as well as to correlate cerebral anatomy with the exam. Implementation of training and competency will also be discussed. Using case studies, the participants will have the opportunity to assess the stroke patient using the NIHSS and apply their understanding of cerebral anatomy correlation.

Track: Epilepsy

Epilepsy in the Elderly

The highest incidence of new-onset epilepsy is in the elderly. Stroke is the cause of 40-50% of new-onset seizures, followed by brain tumors, head injury and dementia. Diagnosis is a challenge due to social isolation, lack of observer's description, co-morbid conditions, and concomitant medications taken by the patient. The seizure is often brief and unwitnessed, with the focus on the post-ictal behavior, leading to misdiagnosis of dementia, syncope, or TIAs. First generation AEDs used for treatment have a narrow therapeutic window, more cognitive side effects and drug-drug interactions and are highly protein bound, causing problems for the elderly. Medication selection should not only focus on efficacy, but also on safety, tolerability, and decreased adverse effects when treating this vulnerable population. Second generation AEDs should be considered as first line treatment of epilepsy in the elderly

