

SYNAPSE

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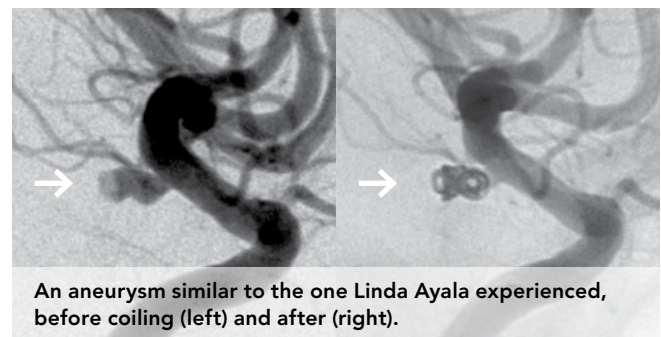
NorthBay Patient Benefits as Mercy Cultivates Referral Relationships

For 10 excruciating days, Linda Ayala endured horrible pain, nausea and neck stiffness. She thought it was just a migraine. But when she could no longer stand up, she asked a family member to take her to the hospital. "I had no idea how serious my situation was," Linda explains. "By the time I realized I needed help, it was almost too late."

After a clear CT scan, doctors at her local hospital, NorthBay Medical Center in Fairfield, performed a lumbar puncture, which indicated a delayed subarachnoid hemorrhage. Linda had been bleeding into the space around her brain for days. The NorthBay physicians immediately contacted the Mercy Neurological Institute. "Within minutes, the transfer coordinator at Mercy had approved the transfer and begun the process," says Caesar Djavaherian, MD, the emergency department physician at NorthBay who treated Linda. "A Mercy neurologist had given us a presentation a few months earlier, so I knew what Mercy was capable of in terms of aneurysm treatment. I remember being impressed—they offer care more on par with a university level medical center. I knew Ms. Ayala would get the best care possible there."

Linda was transferred immediately and within hours, she was in Mercy General's multi-million dollar, state-of-the-art neuro interventional suite. Lotfi Hacie-Bey, MD, performed an endovascular coiling of Linda's aneurysm, a minimally invasive procedure in which a catheter is inserted into an artery in the patient's groin and guided through the vascular system to reach the aneurysm. Then, tiny platinum

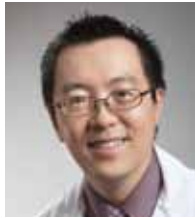
coils are passed through the catheter and deployed into the aneurysm. The coil acts as a plug preventing blood from entering the aneurysm and thereby protecting the patient from further bleeding. For 10 days following this procedure, Linda was closely watched in Mercy's Neurological Intensive Care Unit, receiving advanced monitoring that is unavailable at most facilities. "A patient with Linda's diagnosis and treatment needs a very high level of monitoring for several days, including daily transcranial Doppler tests, which would not have been available at her local hospital," explains Alan Shatzel, DO, Medical Director, Neurology for Mercy Neurological Institute, who oversaw Linda's care during that time. "The Mercy Neurological Institute offers patients a comprehensive team approach, and we have the technology and the volume to deliver exceptional outcomes."



For Dr. Djavaherian, this case is one more step in cultivating the relationship between his hospital and Mercy. "It's been a relief to be able to develop such an efficient, beneficial referral relationship with one facility," he explains. "Having this level of neurological care so immediately available to

continued on page 7

Neurocritical Care Physician Joins Mercy



The Mercy Neurological Institute of Greater Sacramento is pleased to announce that Alex Nee, MD, has joined the institute, giving Mercy the only fellowship-trained neurocritical care neurologist in the Sacramento region.

Dr. Nee comes to Mercy from UCLA where he recently finished his two-year fellowship in critical care neurology. Prior, he spent three years as a neurology resident at the University of Washington in Seattle. Dr. Nee received his undergraduate degree in molecular and cell biology at the University of California in Berkeley and then obtained his master's degree in neuroscience at Hahnemann University in Philadelphia. He received his medical degree at the University of Cincinnati.

His clinical interests include caring for patients affected by neurotrauma, intracerebral hemorrhage, malignant stroke syndromes, status epilepticus, and the applications of therapeutic hypothermia and multimodality brain monitoring.

Among clinical research projects, Dr. Nee was an investigator in the Intraoperative CT Guided Endoscopic Surgery (ICES) Trial from 2008 to 2010.

In recent years, Dr. Nee has presented to physician audiences on a variety of topics including sixth nerve palsy, multiple system atrophy, spinal cord infarct and critical management of poor grade subarachnoid hemorrhage.

Consistent with his background, Dr. Nee plans to be closely involved at the Mercy Neurological Institute with research, education and the use of national best practices. 🏥

What Is Neurocritical Care?

The medical subspecialty of neurological intensive care* is devoted to the comprehensive multisystem care of the critically ill neurological patient. Like other intensivists, the neurointensivist assumes a primary care role for his or her patients in the ICU, coordinating both the neurological and medical management of the patient. Neurological intensive care is unique in its concern with the interface between the brain and other organ systems in the setting of critical illness. The neurointensivist takes on responsibility for various elements of ICU care that might otherwise be provided by multiple subspecialists (e.g., cardiology, endocrinology, infectious diseases, pulmonary medicine and neurology).

Expertise in neurological intensive care also involves procedural skills and proficiency with standard forms of ICU monitoring (e.g., cardiovascular hemodynamic monitoring and mechanical ventilation) as well as specialized forms of neurological monitoring (e.g., ICP and continuous EEG monitoring) and interventions (e.g., hypertensive hypervolemic therapy, therapeutic hypothermia).

Finally, the neurointensivist works closely with neurosurgeons, neuroradiologists, neurologists, emergency medicine, and other medical and surgical subspecialists, as well as with nurses and other care providers in an environment that fosters multi-disciplinary collaboration. The ultimate goal of neurocritical care is to resuscitate and support the acutely ill neurological patient, minimize secondary neurological injury and medical complications, and facilitate the patient's transition to a recovery environment. 🏥

** Information courtesy of neurocriticalcare.org*

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Definition and Treatment of Cluster Headache

Marc Lenaerts, MD, FAHS

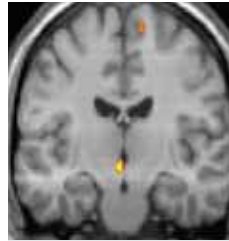
CLINICAL PRESENTATION

Cluster headache is one of the primary headaches, joining migraine, tension-type headache and a few other unusual headache syndromes such as hemicrania continua. A primary headache is, by definition, not due to an underlying condition such as infectious, neoplastic, etc. The cause of primary headaches is still unknown, although the last 20 years have seen breakthroughs in their understanding, especially genetic.

Cluster headache is classified into an episodic form and a chronic form. While chronic cluster may sound like a misnomer, the chronic form retains the clinical features of the episodic form aside from the time course.

The term cluster came to be based on the peculiar time course. The headache comes in short attacks, lasting minutes to hours, generally once but sometimes several times per day, every day for a few weeks. This clustering in turn recurs once or twice a year, less commonly every other or every few years. There is limited variation within a given individual. About a third of the time there also can be remissions. The unique time course is, of course, reminiscent of a role played by the biological clock, the zeitgeber.

The characteristics of the attack are just as typical. Pain is strictly unilateral and does not shift sides. It centers on the orbit, but a lower variant exists where the epicenter is in the cheek. Pain is very intense—hence the nickname “suicide headache.” Common descriptions are a hot poker or a spear piercing the eye. In contrast to migraine headache, throbbing and gastrointestinal involvement are uncommon. By contrast, autonomic dysfunction in and around the eye is prominent. Hyperhidrosis, conjunctival injection, lacrymation, rhinorrhea, nasal obstruction, all ipsilateral to the pain, are symptoms of parasympathetic activation, while ptosis and myosis represent sympathetic deficit. Interestingly, sympathetic dysfunction can persist



Ventroposterior hypothalamic activation during an attack (May et al, 2000).

interictally, such as a droopy eyelid. The restlessness of most patients is also surprising when considering the intensity of the pain. Hazel eyes, special facial features (leonine facies) and pattern A personality tend to be more prevalent in patients with cluster headache.

In the differential diagnosis, besides migraine, one must consider such

trigeminal autonomic cephalgias—pain carried via the trigeminal nerve and accompanied by local dysautonomia as mentioned above—as paroxysmal hemicranias (chronic or episodic), short-lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT), and hemicrania continua. The time course and relative importance of pain and of autonomic symptoms usually allow the attentive clinician to make the difference.

EPIDEMIOLOGY AND PATHOGENESIS

Cluster headache has a far lower prevalence than migraine: 0.1% of the general population as opposed to 12% for the latter. Men are at higher risk than their female counterparts, although modern figures (a ratio of 3:1) are less striking than previous estimates (6:1). There is a genetic component as well, whereby the lifetime risk for cluster headache in affected patients’ first-degree relatives is 39-fold greater than that of the general population. As opposed to migraine, no gene has been identified for cluster headache to this day.

Cluster headache most often is episodic, and the clustering gave its name to the condition. It can become chronic, however, about 13% of the time. In turn, transformation from chronic (back to) episodic can also be observed. About 1/3 patients benefit from spontaneous remission.

The exact pathophysiology of cluster headache is unknown. In 2000, PET



Marc Lenaerts, MD, FAHS

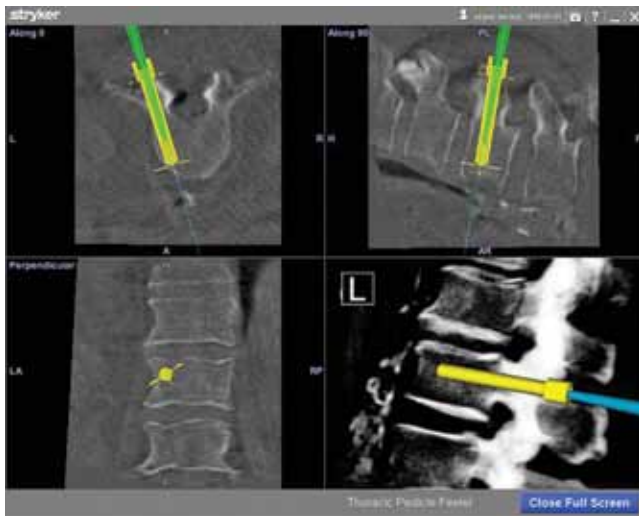
continued on page 9

The Dynamics of Spinal Fusion Surgery

Tushar M. Goradia, MD, PhD

Often I am asked by my patients “If you fuse my spine, do I lose flexibility?”

The answer is “Yes...but...” This procedure is performed for those who have already lost functional flexibility due to injury or arthritis. Spinal fusion surgery helps relieve patients of their pain by restricting those movements which cause them pain in the first place. Fortunately, because the spine has many articulating bones (vertebra), fusion of a limited portion of the spine will not lead to substantial changes in flexibility. The surgery may result in more stiffness of the spine, but the intended tradeoff is an improved overall quality of life.



The surgeon’s view when planning computer-assisted spinal fusion surgery using Mercy San Juan’s Stryker Spinal Navigation System.

Spinal fusion surgery can treat severe injury to the spine or age- and activity-related arthritis of the spine. While spinal surgery is a “last resort” for many conditions, such as chronic neck or back pain, it is indispensable in other conditions. One example is a “broken neck,” which has lost its mechanical integrity.

So what exactly does spinal fusion surgery involve? To fuse a segment of the spine, the surgeon identifies healthy bone on each side of the intended fusion and prepares the intervening portion so that healthy bone grows along

this gap. The two surfaces to be fused undergo meticulous preparation so that bone grows from one to the other in an unimpeded fashion. Scaffolding in the form of bone graft or other materials is placed along this “bridge” to permit new bone cells to “find their way” from one bone surface to the other.

Even with such preparation for fusion, fusion will not occur if the area to be fused experiences ongoing motion. Movement within this segment will interrupt the developing fusion mass. Hence, the area to be fused should be immobilized sufficiently long so that complete healing (bone fusion) can occur. Just as casting is used to immobilize the two parts of a broken arm or leg, internal hardware is used to immobilize the site of fusion.

Metal hardware is placed into the bones neighboring the area to be fused. For example, screws are placed into the bones on both sides of the area to be fused, and then these screws are attached securely to rods that create a rigid metallic link to immobilize the area of fusion while the actual bony bridge is growing. This fusion takes several months.

At Mercy San Juan Medical Center, we are using computerized spinal navigation technology to help place these fixation screws precisely. The pedicle of the vertebra is akin to the stud of a house’s frame and is the most common fixation point for our screws due to its strength. However, the pedicle is a narrow corridor with a complex geometry and is invisible during the surgery (just as the wall stud behind sheetrock is invisible to the homeowner attempting to hang a heavy object on the wall).

An image of the computer monitor (see first column) illustrates the guidance which permits us to indirectly visualize the pedicle and create a safe trajectory for screw placement (courtesy of Stryker Corporation).

If you have comments or questions for Dr. Goradia, please e-mail us at mercyneuro@chw.edu. 🏥



Tushar M. Goradia, MD, PhD

Spine Care: Just the F.A.C.T.S.

Topher Stephenson, MD

Mercy Neurological Institute provides comprehensive spine care in a collaborative environment. Mercy's goal is to help patients optimize their functional abilities. Typically, this goal is accomplished with an individualized combination of careful anatomic diagnosis, education, physical therapy, medications and, if needed, interventions such as epidurals or surgical consultation.

The F.A.C.T.S. framework is adaptable to just about every patient in the clinic, whether they are highly fit ultramarathon runners or octogenarians with extensive medical problems.

One challenging aspect of this process is the educational component that allows the patient to understand the role they can play in proactively managing their own spine pain. This conversation is based on effective communication that allows the message to be understandable, memorable and actionable. A framework we have found to be effective in promoting this information is the acronym "F.A.C.T.S."

"F" stands for flexibility. Many patients benefit from regular stretching in order to improve their biomechanics and reduce their risk for the sprains and strains that contribute to back pain. Stretches learned in physical therapy or regular yoga are a good place to start.

"A" is for aerobic exercise. The American College of Sports Medicine (ACSM) recommends a minimum of 30 minutes of moderate-intensity physical activity five days per week. This is above and beyond normal low-intensity

activities of daily living. Moderate intensity is defined as exercise that is vigorous enough to break a sweat and elevate the heart rate while still being able to carry on a conversation.

"C" stands for core strengthening. This recommendation was adapted from the ACSM recommendation to perform strength training exercises twice per week. The core consists of the muscles that encase our torsos from the shoulders to the thighs. These muscles provide the postural support required for most activities, athletic or not, that we perform each day. Strong, well-balanced core musculature is vital to optimizing the health of the spine. Pilates-type exercises are some of the best ways to efficiently strengthen the core muscles.

"T" stands for no tobacco. We emphasize the need to optimize the body's ability to deliver oxygen-rich blood to injured tissue in order to heal. Tobacco causes vasoconstriction and hypoxemia, impairing the ability to heal what may be the source of the patient's pain.

"S" is for stress reduction. Many patients benefit from actively reducing their daily stress. This may be accomplished with a regular exercise program, the "F", "A" and "C", or progressive relaxation exercises; other patients reduce their stress levels by addressing their behavioral health issues through counseling.

The F.A.C.T.S. framework is adaptable to just about every patient in the clinic, whether they are highly fit ultramarathon runners or octogenarians with extensive medical problems. Every patient should be provided with information that allows them to improve their wellness and be in control of their health. The F.A.C.T.S is one part of this equation.

If you have comments or questions for Dr. Stephenson, please e-mail us at mercyneuro@chw.edu. 🏥



Topher Stephenson, MD

Introduction to Electromyography and Nerve Conduction Velocity Studies

Peter T. Skaff, MD

Electromyography (EMG) and Nerve Conduction Velocity (NCV) Studies are electro-diagnostic techniques utilized to identify and characterize disorders affecting the nerve roots, peripheral nerves, neuromuscular junction and muscles. EMG employs a very fine needle to record and characterize the electrical activity muscles, whereas NCV is performed by stimulating a nerve with electrical current, then recording the impulse at a distance, measuring response velocity and amplitude.

EMG/NCV is an extension of the physical exam and should be ordered after an initial clinical evaluation has been performed, not as a substitute for the clinical evaluation. It should be obtained to refine, confirm or otherwise further evaluate the working diagnosis.

CONDITIONS EVALUATED BY EMG/NCV:

- Radiculopathy (nerve root injury)
- Peripheral nerve disorders (e.g., Neuropathy, Carpal Tunnel)
- Myopathy (e.g., Myotonic Dystrophy)
- Neuromuscular Junction Disorders (e.g., Myasthenia Gravis)
- Spinal Cord Injury or Disease (e.g., ALS)

The first two are common and will be covered here. The latter three are uncommon, and when suspected, should prompt a neurological consultation.

(1) Radiculopathy

EMG evaluates the physiological integrity of a nerve root by providing an assessment of the electrical activity of the muscles it innervates. When a nerve root is injured, the connections of its neurons to downstream muscle fibers may be lost, resulting in a predictable change in muscle firing. By sampling various muscles, a pattern of abnormality can be revealed indicating injury to a particular nerve root. Because denervation takes time,

EMG sensitivity for acute root injury is low, and increases after about six weeks. EMG may also miss mild or sensory predominant radiculopathies.

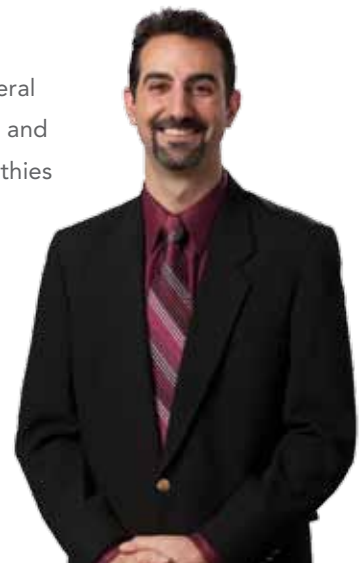
Motor NCV's may be affected by significant root injury producing low-amplitude responses, but Sensory NCV's should be unequivocally normal in radiculopathy. The H-Wave NCV is the electrophysiological equivalent of the muscle stretch reflex and is root-specific with regard to the muscle from which the response is recorded (usually the flexor carpi radialis in the arm or the gastrocnemius in the leg).

(2) Peripheral Nerve Disorders

Peripheral neuropathies are common and produced by various medical conditions and injuries. They are characterized generally by impaired sensation, flaccid weakness, muscular atrophy, and absent muscle stretch reflexes. Sensory symptoms (e.g., numbness, tingling) are usually the earliest manifestation.

Most distally symmetrical peripheral neuropathies are reliably suspected by clinical history and identified by physical examination without electrodiagnostic studies. However, EMG/NCV can provide valuable information that cannot be gleaned by the H&P. This may include differentiating demyelinating from axonal degenerative processes, distinguishing between peripheral neuropathy and entrapment neuropathy and identifying unusual entities such as mononeuritis multiplex and brachial neuritis. Electrodiagnostic studies can also characterize the chronicity of a nerve injury (e.g., acute, sub-acute or chronic) and can identify the stage of injury (e.g., active, relatively inactive, regenerating).

The most common causes of peripheral neuropathy are diabetes, alcoholism and B12 deficiency. Entrapment neuropathies are ubiquitous, with carpal tunnel syndrome (median neuropathy at the wrist), being the most common. Even with extensive laboratory investigation, up to one-third of all neuropathies may remain idiopathic.



Peter T. Skaff, MD

continued on page 8

Health Literacy: A \$50 Billion Issue

John Schafer, MD

Communication is the heart of healthcare. Medical providers will communicate better if they recognize that many patients don't have the capacity to read materials which are provided to them, including, for example, medication instructions, and don't understand the jargon used by the medical team.

Health Literacy is the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions. (Healthy People 2010)

The National Adult Literacy Survey (NALS) conducted by the U.S. Department of Education in 1992 showed that 48% of 26,000 people surveyed were functionally illiterate or marginally literate. Research demonstrates that poor health literacy is associated with more medication errors, poor adherence to treatment plans and poor follow-up with scheduled procedures and clinic visits.

The result is less frequent receipt of preventative care, worse control of chronic conditions, more emergency room visits, greater rates of hospitalization and longer hospital lengths of stay. These, in turn, result in more adverse outcomes of disease and increased cost of care. *Poor health literacy has been estimated to cost the healthcare industry more than \$50 billion a year.*

Poor health literacy is also associated with higher levels of medical malpractice claims due to inadequate understanding of diagnoses and treatment.

Recognizing patients with poor health literacy requires skill on the part of the medical team. Due to great embarrassment, patients are not likely to volunteer or even admit on questioning that they cannot read. Tell-tale signs may include poor compliance with medication instructions, failure to complete forms and failure to show up for procedures or clinic visits. Some patients may respond to questions such as: How comfortable are you with your reading?

We can help by learning to recognize the barriers faced by patients with low levels of literacy. Important measures during office visits include minimizing the amount of written information required from the patient, help from office staff in completing forms, giving spoken directions to the office and to testing sites, asking patients to bring all of their medications with them, and reviewing instructions with patients at the end of each visit. Easy-to-read signs and forms, everyday words instead of medical terms, and use of diagrams and models when explaining procedures will enhance understanding. The technique of teach back (asking the patient to restate what they have been told) is a very valuable tool.

If you have comments or questions for Dr. Schafer, please e-mail us at mercyneuro@chw.edu. 🏥



John Schafer, MD

NorthBay Patient Benefits as Mercy Cultivates Referral Relationships, continued from page 1

our patients is great. We are very appreciative of what Mercy offers to the region."

Linda credits the physicians and staff at both NorthBay and Mercy with saving her life. "I'm grateful to the doctors at NorthBay for making the diagnosis and reaching out

to Mercy on my behalf," she says. "I was so happy to be treated at Mercy. The doctors and nurses were all wonderful. I knew I was someplace special."

If you have comments or questions, please e-mail us at mercyneuro@chw.edu. 🏥

How to Diagnose, Treat AVMs

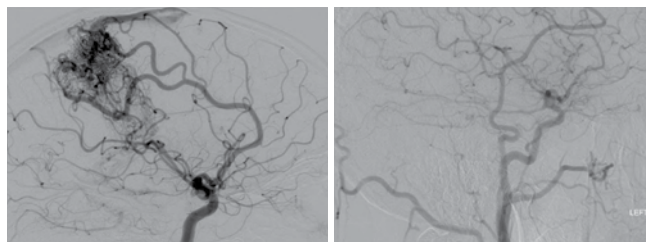
Kavian Shahi, MD, PhD

Arteriovenous malformations (AVMs) are congenital lesions of the brain comprised of abnormal vascular connections between the arterial and venous drainage systems of the brain. Normally, arteries feed into capillaries that then drain into veins. In AVMs, there is a direct communication between the arterial system and the venous system with no intervening capillaries or neural parenchyma. As a result, high pressure blood flow is shunted directly into a low pressure system via a tangle of dysplastic vessels called a nidus.

AVMs are typically silent and patients may harbor one and not even know it. They can be graded based on their size, location and their venous drainage pattern. They most

For AVMs found incidentally, any of the options are available and should be tailored to the patient based on the patient’s medical history and the details of the AVM itself.

commonly present with bleeding (approximately 50% of the time). The next most common presentation is with seizures. Other presenting symptoms can be due to local mass effect, ischemia (by steal) or rarely headaches. Risk of hemorrhage is 2–4% per year with a hemorrhage-related mortality of 10% and morbidity of up to 50%. Interestingly, the risk of bleeding is higher in smaller AVMs.



Before
Large AVM found as a source of hemorrhage in a young man in his 20s (right internal carotid angiogram).

After
Right common carotid angiogram of the same patient after partial embolization followed by surgical resection.

Diagnosis is typically made by brain MRI but the gold standard test remains the cerebral angiogram. This test not only confirms the diagnosis but also can yield flow characteristics not possible by any other method.

Treatment options include surgery, radiotherapy, endovascular embolization or a combination of these treatment modalities. Endovascular embolization can facilitate surgery or possibly stereotactic radiosurgery but usually is inadequate to permanently obliterate AVMs by itself. For AVMs that have bled or are a focus of seizures, embolization followed by surgery is the preferred treatment modality. For AVMs found incidentally, any of the options are available and should be tailored to the patient based on the patient’s medical history and the details of the AVM itself.

If you have comments or questions for Dr. Shahi, please e-mail us at mercyneuro@chw.edu. 🏥



Kavian Shahi, MD, PhD

Introduction to Electromyography and Nerve Conduction Velocity Studies, continued from page 6

In summary, EMG and nerve conduction studies are an extension of the physical examination and may contribute to refining the diagnosis of common radicular and peripheral nerve disorders and other less common neuromuscular disorders. In the case of suspected nerve

root injuries, electrodiagnostic studies may complement but do not necessarily replace neuroimaging studies.

If you have comments or questions for Dr. Skaff, please e-mail us at mercyneuro@chw.edu. 🏥

Definition and Treatment of Cluster Headache, continued from page 3

scan imaging performed during cluster headache attacks showed hypothalamic activation, in line with the particular time aspect of the condition. Pain is linked to cavernous sinus inflammation. Autonomic dysfunction consists of sympathetic plegia (ptosis and myosis) and parasympathetic activation (lacrymation, rhinorrhea...). The connection between spinal trigeminal and superior salivatory nuclei in the brainstem establishes the link between pain and parasympathetic symptoms.

TREATMENT

Pharmacotherapy of cluster headache has three components: preventive, inductive and abortive.

Preventive treatment is initiated as soon as the active period restarts and the duration is usually determined on the basis of previous cluster periods. In case prophylaxis is terminated too early (i.e., the attacks resume) it can be restarted for some longer time, of course.

Verapamil is a classic option and it is more effective in cluster headache than it is in migraine. Sometimes high or very high doses are needed, and as much as 720mg daily have been reported! Topiramate is very effective as well. Valproate, unlike migraine, has no place in cluster headache treatment. Lithium has long been used and is typically reserved for the chronic form of the disease. Small-scale trials have brought other choices in the armamentarium. They include melatonin, gabapentin, amitriptyline, candesartan, among others.

Because prophylactic treatment may take days or more to start reducing attacks, an **inductive treatment** is used to bridge the gap, usually for a few days. During that period, prophylaxis must already be concomitantly initiated.

In inductive therapy, a steroid taper with prednisone over a week is usually used. Occipital nerve injection with methylprednisolone suspension is another option.

Abortive treatment has to be rapidly effective and the parenteral routes of administration are preferred, although they are not exclusive. Interestingly, the incidence of medication overuse in cluster headache is negligible.

Combining treatments, both abortive ones and prophylactic ones, may prove useful in difficult cases.

The most effective abortive therapy option is subcutaneous sumatriptan. The onset of action is within minutes. Oxygen high-flow inhalation with mask also gives rapid relief and can be alternated with sumatriptan. Hyperbaric oxygen did not prove beneficial. Oral or nasal triptans have also demonstrated effectiveness but the onset of action is slower. Alternatives include intranasal lidocaine solution or gel, and intranasal capsaicine—with initial exacerbation of pain!

In refractory situations, Gasserian ganglion radiofrequency thermocoagulation or percutaneous glycerol injections can be considered only in expert hands, and the scientific literature is clearly limited, almost anecdotal. Deep-brain stimulation can be considered for refractory cases of chronic cluster headache. In the limited experience of stimulation of the hypothalamus, approximately 50% patients improved.

CONCLUSION

Overall, the management of cluster headache is very specific and requires expertise in the field. This includes close follow-up and, as in other headache syndromes like trigeminal neuralgia, at times multidisciplinary approach: primary care, neurology, neuroradiology, pain management, psychology and even, exceptionally, neurosurgery. At the Mercy Neurological Institute of Greater Sacramento, we are equipped with all the components as well as the expertise necessary.

Finally, the care of patients with cluster headache, as for other headache syndromes such as migraine, is very rewarding. Effective treatment can significantly improve the lives of these otherwise usually productive young adults.

If you have comments or questions for Dr. Lenaerts, please e-mail us at mercyneuro@chw.edu. 🏥



Interested in contributing to or commenting on Synapse? E-mail us at mercyneuro@chw.edu



Brain Waves: Updates from the Mercy Neurological Institute

MERCY MS CENTER FIRST IN CALIFORNIA TO BE "PARTNER IN MS CARE"

The Mercy MS Center, part of the Mercy Neurological Institute of Greater Sacramento, has received certification from the National Multiple Sclerosis (MS) Society as an official "Partner in MS Care." The designation signifies a thorough review by the National MS Society to validate the quality and excellence of MS patient care and focuses on the experience of the patient through clinic services and support groups. The Mercy MS Center is the first clinic in California to become a certified "Partner" by the National MS Society under new requirements.

"This certification recognizes our team's innovative approach, quality of treatments, early intervention and continuity-of-care, always keeping the individual patient's needs foremost in our minds," said John Schafer, MD, Mercy MS Center.

The National MS Society began its clinical affiliation/certification program in October 2009. The program focuses on the experience of the patient and emphasizes comprehensive and coordinated MS care.

Areas used to evaluate clinics for "Partners in MS Care" certification include:

- The experience of the patient.
- Benefit for patients to have access to a full array of medical, psycho-social and rehabilitation services to address the varied and often complex issues related to living with MS.

- Clinical sites that demonstrate the ability to provide coordinated and comprehensive MS care to patients, while allowing flexibility in center operations and staffing models.
- Strong collaboration between the MS Society and the center.

For the Mercy MS Center, the designation also means that the National Multiple Sclerosis Society will refer patients seeking MS care and resources to their clinic.

Mercy provides MS patients with a variety of education and support services including group medical appointments and access to a certified MS nurse. Mercy also works with patients in person for one-on-one support, disease education and provides consultations for research trials for new cutting-edge medications.

CARF RECOGNIZES INPATIENT REHAB AT MERCY GENERAL

Mercy General Hospital's Acute Inpatient Rehab unit has received notification from the Commission on Accreditation of Rehabilitation Facilities (CARF) that the program has been officially accredited by their organization.

To achieve the accreditation, the entire Rehab Team committed to quality improvement and placed focus on the unique needs and results of services for each of the patients served. The accreditation process applies sets of standards to service areas and business practices during an on-site survey. Accreditation, however, is an ongoing process, signaling to the public a continued commitment to improving services, encouraging feedback and serving the community. Accreditation also demonstrates commitment to enhanced performance, managed risk and distinguished service delivery.

CARF-accredited service providers enjoy international recognition for their commitment to excellence. Consumers face a variety of options when deciding what services to use and who should provide them. Accreditation is a sign of quality services and is an important consideration in their decision making.

WOODLAND RECEIVES AMERICAN STROKE ASSOCIATION'S "GOLD PLUS" AWARD



Woodland Healthcare was awarded the 2010 American Heart Association/American Stroke Association's Get with the Guidelines® Stroke Gold Plus Performance Achievement Award for providing excellent stroke care for patients.

Woodland Healthcare has been certified by the Joint Commission as a Primary Stroke Center since 2006 and is one of five Mercy hospitals in the Sacramento area with Primary Stroke Center status.

To receive the AHA/ASA award, Woodland Healthcare achieved 85 percent or higher adherence to all Get with the Guidelines stroke indicators for two or more consecutive 12-month intervals and achieved 75 percent or higher compliance with six of 10 stroke quality measures.

These measures include aggressive use of medications

such as tPA, anti-thrombotics, anticoagulation therapy, DVT prophylaxis, cholesterol-reducing drugs and smoking cessation, all aimed at reducing death and disability and improving the lives of stroke patients.

If you have comments or questions, please e-mail us at mercyneuro@chw.edu. 



(Left to Right): Rea Anne Arcangel, American Heart/Stroke Association Quality Director; Teresa Childers, Director, Quality/Risk & Medical Staff; Sherri Olswang, Director of Critical Care; Debbie Porter, Stroke Team Nurse/Critical Care Educator; Halima Karim, MD, Neurologist, Stroke Medical Director; and Kevin Vaziri, Woodland Healthcare President.

News on Statins

Nicole Lee, PharmD


As guidelines change to emphasize strict control of cholesterol goals, there is a greater push to utilize higher doses of statins. Of note, the FDA released a safety announcement about the potential increased risk of rhabdomyolysis from high-dose simvastatin. The FDA highlighted one study that showed more cases of myotoxicity with the 80mg dose.

This number was highest among trials studying high doses of other statins. The package insert for simvastatin provides details of the conditions that increase the risk of rhabdomyolysis. Among the indications: patients of Chinese descent should not receive 80mg concurrently

with niacin (more than 1g/day), and other dose limitations should be used in combinations that include cyclosporine, gemfibrozil, amiodarone, verapamil or diltiazem.

In other news, Kowa Pharmaceuticals will release Livalo® (pitavastatin), which is indicated for primary hyperlipidemia and mixed dyslipidemia as adjunctive therapy to diet. It is dosed 2–4mg daily. Patients with renal impairment have a maximum dose of 2mg daily.

We are still waiting for a new version of the National Cholesterol Education Program Adult Treatment Panel guidelines. First promised in 2009, the ATP IV guidelines are now expected to be released in fall 2011.

Nicole Lee is a doctor of pharmacology affiliated with the Mercy Neurological Institute. 



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UPCOMING EVENTS

Join Us Monthly for Neuro Grand Rounds

Mercy General Hospital

First Thursday of each month at 12:30 p.m.

Mercy San Juan Medical Center

First Friday of each month at 12:30 p.m.

*Questions or program suggestions can be directed to
Candy Collins, CHW CME Office, at 916.733.6334.*