Mellen Center Approaches: Pain in Multiple Sclerosis

How often do MS patients have pain?
The point prevalence of pain in MS patients is nearly 50%. Seventy five percent of MS patients have reported experiencing pain. Eleven to 28% of patients have pain at the onset of the symptoms of MS. Compared to controls MS patients were more likely to have moderate to severe pain, use analgesics and describe interference with daily activities. Pain has been associated with poor quality of life measures. The risk factors associated with increase pain in MS patients include: older age, longer disease duration and greater EDSS scores.

REFERENCE:

What is neuropathic pain?
“Pain arising as a direct consequence of a lesion of disease affecting the somatosensory system.”


Are there different types of MS pain?
Pain can be described on the basis of different factors: location, etiology and duration or time course: acute or chronic.
Common acute pain syndromes include: Paroxysmal pain, Trigeminal neuralgia, Lhermitte’s phenomenon and dystonic (or tonic) spasms.
The common chronic pains are: low back pain, dysesthetic extremity pain, spasms, cramps, complex regional pain syndrome(CRPS).

Pain Syndromes according to lesion location

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<th>Demyelinating Lesions in the Nerve entry Zone</th>
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What is the most common type of MS pain?
Several studies have listed dysesthetic extremity pain as the most common type of MS pain. The prevalence is 17-23%. This pain type is usually chronic.

What is Lhermitte’s phenomenon?
Lhermitte’s phenomenon is a sudden sensation of electrical shock that spreads through the body on flexion of the neck, occurs in 25-33% of patients with MS. The sensation usually lasts for less than 2 seconds. Pharmacotherapy is not usually necessary. A cervical intramedullary lesion is often found in these patients.

REFERENCE:

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Are spasms painful?
Spasms are not always painful. Please refer to the Mellen Center document on treating Spasticity in MS. Tonic Spasms or Dystonic spasms can sometimes be painful uncontrolled spasms precipitated by voluntary movement, sensory stimulation or hyperventilation. They are rarely seen outside MS patients, and they are seen in 10-24% of MS patients. Treatment with anticonvulsants can lessen the spasms and pain and be efficacious in low doses.

REFERENCE:

Can Optic Neuritis be painful?
Optic Neuritis is common in MS patients and pain is a diagnostic feature of Optic Neuritis. Treating the ON as needed with IV steroids can reduce the associated pain. Most patients do not require specific pain management for this symptom as it is self limited. Chronic photophobia can occur in MS and this can be uncomfortable.

REFERENCE:

Do Psychosocial factors play a role in pain?
Psychosocial factors, including pain related catastrophizing and pain coping, were not only strongly associated with pain interference but were more strongly associated with pain intensity. Therefore adding Psychology and nonpharmacologic means of helping pain (exercise, meditation, deep breathing, healthy diet) may improve pain coping. It is not clear if depression in and of itself is a risk factor for pain in MS.

REFERENCE:

Does MRI help to localize the pain syndromes of MS?
Central MS pain patients have been found to have between 5-16 focal brain lesions mainly in the periventricular white matter. One third of these cases had lesions in the lateral or medial thalamus and most patients have cervical or thoracic spine lesions. Tonic spasm patients were found to have lesions at the level of the internal capsule posterior limb or in the cerebral peduncle. Patients with Lhermitte's phenomenon were found to have lesions of the cervical spinal cord. Further evaluation is needed if the pain syndrome is atypical for MS or difficult to control to rule out alternative etiology of the pain syndrome.

REFERENCE:

How do we best help MS patients with pain?
We first diagnose the pain syndrome and educate the patient. Anticonvulsants are the first line therapy for MS pain. We generally start treatment with Gabapentin or Pre-Gabalin. These medications can make patients sleepy, starting in low doses or at bed time can help the patient better tolerate the medications. Neuropathic pain may need higher doses of these medications for full efficacy, ie. 1800 mg of Gabapentin a day is a common dose to help Neuropathic pain. The FDA has approved PreGabalin and Cymbalta for treatment of Diabetic related peripheral neuropathic pain and Fibromyalgia, we also use these medications for MS neuropathic pain. Gabapentin, pregabalin, oxcarbamazepine, lamotrigine and TCA have also been found to be helpful for treatment of central pain. It may also be reasonable to consider using medications that have helped peripheral neuropathic pain: tramadol, SSRI and Norepinephrine reuptake inhibitors. There are times when combination therapy of various drug classes also helps lessen MS patient's pain. Disease modifying therapies for MS have not been shown to be helpful in treating MS pain. Baclofen may help painful spasms and has been found to also help TN pain.

REFERENCE:
Dworkin RH. Arch Neurol 2003:60;1524-34.

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What about chronic opioids for this population?
There is limited data on the use of chronic opioids in the MS population. However our experience is that this is common. For some patients with chronic neuropathic pain this may be an important option when other avenues for treatment have been exhausted. Physicians prescribing such medications such be adept at the use and prevention of side effects of such medicine, and usually should consider an narcotic agreement for care with the patient understanding the limits and restrictions on the use of such medicine. There are no specific recommended opioids for chronic pain in MS but long acting forms are preferred over shorter acting opioids.

Note: At the Mellen Center we usually do not participate in pain management with long acting opioids, particularly for patients residing a distance from the center. We prefer to work with pain management physicians or neurologists in the local area. Chronic opioid therapy is best managed in the context of an overall pain management program.

Is there presently any role for Cannabinoids in MS pain management?
There are at least 5 randomized control trials looking at the use of Cannabinoids for MS pain. The oral synthetic tetrahydrocannabinol (THC) in a crossover design, reduced pain and improved certain QOL measures but had a high frequency of side effects. In other studies the results showed no statistically significant benefit. The results are mixed and further research is required. At the Mellen Center we do not utilize Cannabinoids for MS related pain.

REFERENCE:
Wade DT. MS 2004:10;434-41.
The National MS Society has an Expert Opinion paper on this topic, please see for further recommendations.

When should Pain management or Chronic Pain Programs be involved?
These services should be considered when the patient has inadequate pain control after working with RN/MD teams with various trials of pharmacologic and alternative health measures. Pain Management programs may recommend an Intrathecal pump and or a Spinal cord stimulator for pain control. Spinal cord stimulators, at this time, preclude the use of further MRI imaging for MS management.

What is Trigeminal Neuralgia (TN)?
TN is the sudden, usually unilateral severe brief, stabbing recurrent episodes of pain in the distribution of one or more branches of the Trigeminal nerve. At the Mellen Center we evaluate young patients with new onset of TN as this may be a first symptom of MS. The prevalence of TN in MS patients is thought to be 1-2%, 20x the prevalence of the general population. The prevalence of bilateral TN in MS patients is 11-31% more common than in non MS patients.

REFERENCE:

Does imaging help identify a cause of TN?
In 15% of the TN cases routine neuroimaging may identify the cause of the TN. There are currently inconsistent results regarding sensitivity of MRI to identify vascular contact in CTN. MS patients may have lesions at the Trigeminal nerve root entry zone as well as pontine lesions at the intramedulary portion of the trigeminal root.

REFERENCE:

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Which drugs are effective in TN pain?
Clinical trials have demonstrated various levels of pain control; Carbamazepine (200-1200mg/d) is established as effective, Oxcarbazepine (600-1200mg/d) is probably effective and Baclofen, lamotrigine and pimozide are possibly effective for controlling pain in patients with TN. There is insufficient evidence to support the use of clonazepam, gabapentin, phenytoin, tizandine, topical capsaicin and VPA for controlling pain in TN. There are no published studies comparing polypharmacy to monotherapy although it is our experience that polypharmacy with various drug classes can result in improved TN pain control. Patients with MS may have difficulty tolerating medicines such as carbamazepine due to fatigue and ataxia. Occasionally IV or po steroids have temporarily help TN pain.

Our current approach is to start with OxCarbamazepine, once this dose is maximized and is ineffective we will add another antiepileptic medication to improve pain control. If the TN pain flares and the patient is having trouble eating a short course of po or IV steroids is indicated. Topical therapies also can help pain control, such as Capsaician and Lidocaine or Gabapentin cream.

REfEREnCE:

When should interventions for TN in MS patients be considered?
At the Mellen Center we usually try one or two first line medicines for the Trigeminal neuralgia in a reasonable dose escalation. If efficacy is not sufficient or if side effects are prohibitive we recommend that an interventional approach be considered to improve quality of life.

Which surgical technique gives the longest pain-free period with fewest complications and good quality of life?
Percutaneous procedures on the Gasserian ganglion, gamma knife and microvascular decompression are possibly effective in the treatment of TN, (multiple Class III studies).
Indirect comparison suggests microvascular decompression has longer duration of pain control than other surgical interventions. There are studies showing lesser efficacy of these procedures in MS patients yet overall insufficient evidence to support or refute use of these procedures in MS. In our experience Gamma Knife procedure is the least invasive and most efficacious (lack of data) procedure. Balloon ablation can also be effective in MS patients. We, we send the patients for surgical evaluation for further advice on the most efficacious procedure for the TN pain.

REFERENCE:

How often does back pain occur in MS?
The prevalence of back pain in MS can range from 10-16%. In many MS patients the pain is musculoskeletal in origin and therefore aggravated by prolonged sitting or standing. Less commonly back pain is associated with Scoliosis or Degenerative disease of the spine. It is rare that back pain is central in origin. Treatment of MS back pain is similar to back pain protocol in non MS patients: PT, NSAIDS, heat, cold packs and if needed consultation with Pain Management.
**Do MS patients get headaches?**

Headaches are reported to be as common in MS patients as in the general population. There does not appear to be a specific “MS” headache syndrome. Two prospective studies found forty-one percent of the headaches were classified as Migraines, the rest were muscle contraction type headaches. The headache symptoms did not correlate with MS symptoms. It is rare for headaches to be associated with a relapse. Interferon Beta can increase the risk of headaches, especially in the first few months of therapy. There are times we need to stop Interferon therapy due to worsening of headaches. Cervicogenic headaches are common and can be helped by Physical therapy focused on the neck.

Other than altering medicines which may induce headache, we treat headaches in MS the same way they are treated in the general public. There is nothing specific about the MS treatment. MS medications do not reduce headache in the general population. We often work with local neurologists in the ongoing care of such headaches.

**REFERENCES:**

LaMantia IFN treatment may trigger primary Ha in MS patients MS 2006:12;476-80.

**Can MS patients have Fibromyalgia as well as MS?**

MS patients can have Fibromyalgia as well as MS. Fibromyalgia patients may also have symptoms similar to MS and MS needs to be ruled out in these patients. Not all Fibromyalgia patient has MS. Medications, exercise, improving sleep efficacy and Physical therapy can help manage Fibromyalgia symptoms.

**What is the role of exercise and wellness interventions on pain in MS?**

There is evidence that exercise and wellness interventions can affect pain.

In one study Wellness Interventions in MS affected women resulted in less reports of bodily pain.

Exercise is associated with lower rates of complaints of pain.

The practice of meditation over two months resulted in significant pain reduction and improved physical health measures in MS patients compared to controls.

Therefore helping our MS patients engage in regular exercise and nonpharmacologic measures may help with pain control. We offer our patients with pain a consultation with PT for conditioning and to help them establish a regular exercise routine.

We can also offer patients non-medicinal approaches to pain and Wellness that can include:

1. Meditation
2. Exercise
3. Consultation with Integrative medicine
4. Nutrition therapy
5. Smoking
6. Sleep Hygiene

**REFERENCE:**

Turner A 2009
Meditation Abstract: not published