

Neuropathic Pain in Neuroimmunology

Siegel Rare Neuroimmunology Association (SRNA)

Rare Neuroimmune Disorders Symposium

August 29th, 2020

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"So you're saying the pain is about a five out of ten?"

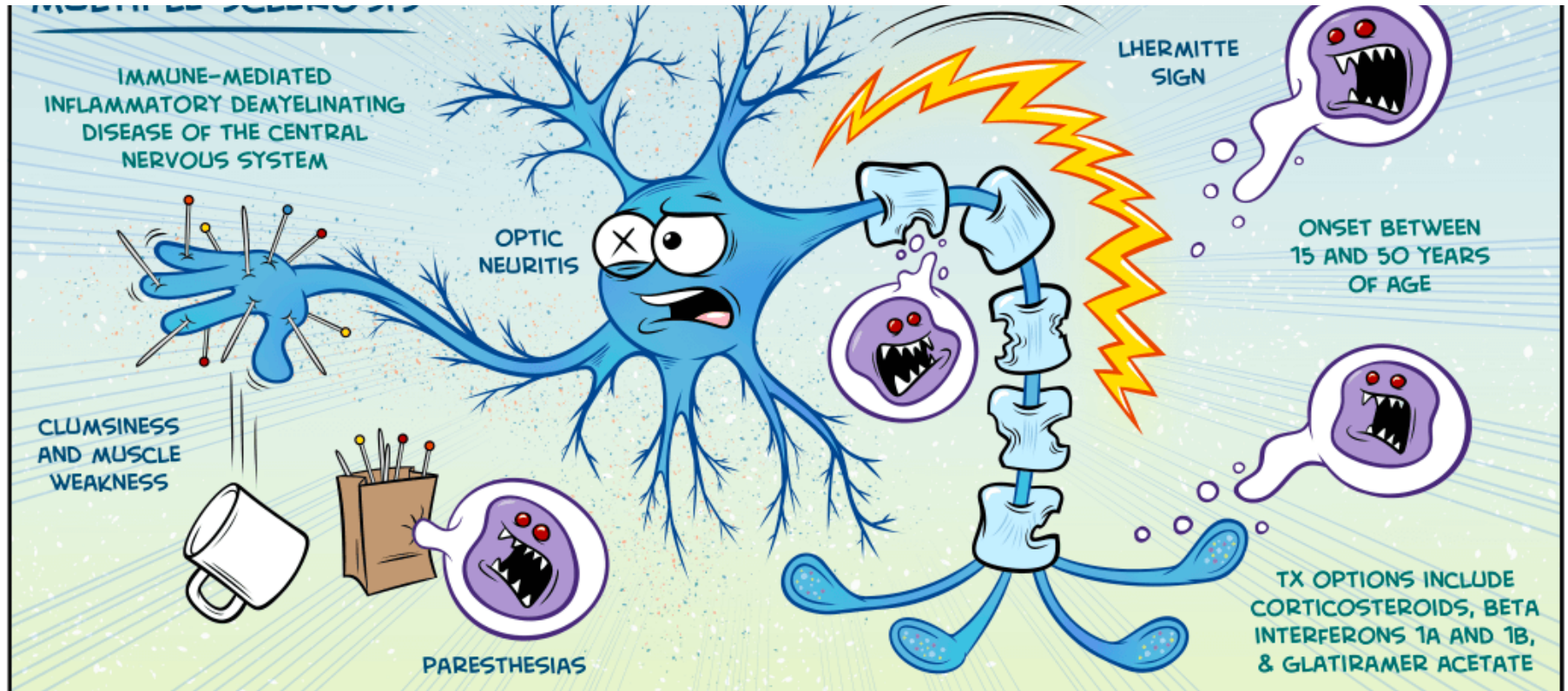
Objectives

- Discuss terminology
- Epidemiology of neuropathic pain
- Treatments options

Types of pain	Characteristics
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Trigeminal Neuralgia	Excruciating, sharp, shocklike pain in cheek and forehead, lasting seconds to minutes; may be triggered by speaking or a touch.
Tonic Spasms	Brief muscle twitching or sudden, sharp muscle spasm; may also burn or tingle.
Paroxysmal Limb Pain	Painful burning, aching, or itching of any part of the body but more common in the legs.
Headache	Migraine, tension, or cluster headache types.
Optic Neuritis	Ice-pick like eye pain.
Dysesthetic Extremity Pain	Chronic burning, tingling, tightness, or pins-and-needles
Spasms	Muscle cramping, pulling, and pain.
Musculo-Skeletal Pain	Caused by the physical stress of immobility including pressure sores, stiff joints, muscle
Iatrogenic Pain	Pain caused by treatment, such as steroid-induced osteoporosis, injection site reactions.

Neuropathic Pain in a Picture...



How common is pain in our patient populations?

TABLE 1 Overview of disease-associated chronic neuropathic pain

Disease	Prevalence of pain	Pain symptoms
Multiple sclerosis	50–86% (8 , 9)	Extremity pain, trigeminal neuralgia, back pain, headaches
Parkinson's disease	40–60% (10 , 11)	Musculoskeletal pain, dystonia, central neuropathic pain
Alzheimer's disease	~57% (12)	Musculoskeletal pain
Diabetes	64% (13)	Painful neuropathy, mixed pain symptoms
Cancer	~78% (direct tumor involvement) (14)	Plexopathies,
	~90% of chemotherapy patients (15)	Painful cranial neuralgias, sensory neuropathy

Neuromyelitis Optic Spectrum Disorder (NMOSD)

Table 2. Pain Characteristics

	No. (%)	
	NMO (n=29)	MS (n=66)
Patients with pain	25 (86.2)	27 (40.9)
Current pain on 10-point scale, mean (range)	5.38 (0-9)	1.85 (0-10)
Categorized pain severity		
None (0)	4 (13.7)	39 (59.1)
Mild (1-3)	3 (10.3)	11 (16.7)
Moderate (4-6)	7 (24.1)	9 (13.6)
Severe (7-10)	15 (51.7)	7 (10.6)
Temporal pattern (% of those with current pain)		
Constant	16 (64.0)	14 (51.8)
Intermittent	6 (24.0)	12 (44.4)
Transient	3 (12.0)	1 (3.7)

Neuromyelitis Optic Spectrum Disorder

Table 2 Brief Pain Inventory in NMO and MS ^a			
	NMO (n = 37)	MS (n = 51)	<i>p</i>
Pain Severity Index	3.6 ± 2.8	1.5 ± 2.1	<0.0001
Categorized Pain Severity Index rating, n (%)			
None (0)	6 (16.2)	27 (52.9)	
Mild (1-3)	14 (37.8)	14 (27.5)	
Moderate (4-6)	9 (24.3)	8 (15.7)	
Severe (7-10)	8 (21.6)	2 (3.9)	
Pain-related interference (0-10)			
General activity	3.3 ± 3.8	2.0 ± 3.0	NS
Mood	3.5 ± 3.3	2.4 ± 3.2	NS
Walking ability	3.2 ± 3.8	1.6 ± 2.6	0.02
Normal work	3.4 ± 3.8	2.3 ± 3.4	NS
Relation with other people	3.0 ± 3.7	1.7 ± 2.9	NS
Sleep	3.5 ± 3.6	2.2 ± 3.1	NS
Enjoyment of life	3.7 ± 3.8	2.0 ± 3.0	0.02
Total	23.3 ± 23.8	14.7 ± 19.4	NS

Summary of total direct and indirect costs of pain in multiple sclerosis (MS) over a six-month period* (n=211)

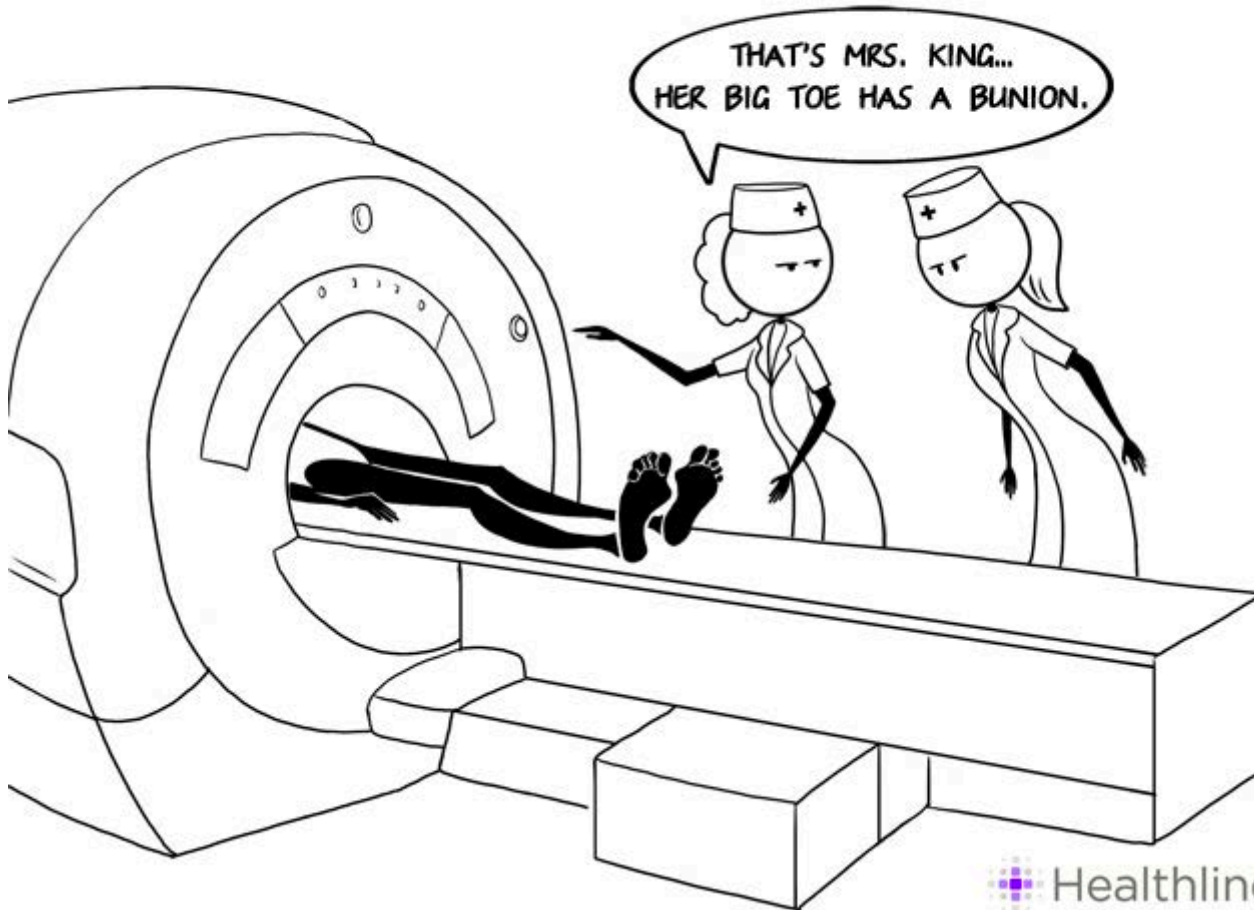
Parameter	Total
Direct costs	
Health care visits	
Family physician	\$15,084
Specialist	\$5,082
Pain clinic	\$908
Physical therapist	\$5,941
Total	\$27,016
Hospitalizations and ER visits	
Hospitalizations	\$149,350
ER visits	\$7,200
Total	\$156,550
Drug management of pain	
Prescribed	\$144,300
Over the counter	\$5,318
Total	\$149,618
Nondrug management of pain	\$92,850
Laboratory/diagnostic services	\$8,017
Home care services	\$67,853
Travel costs	\$30,044
Total direct costs	\$531,948
Indirect costs	
Lost time	
Lost time from work	\$16,945
Lost time from leisure	\$121,622
Total	\$138,567
Total indirect costs	\$138,567
Direct and indirect costs	\$670,515

Boneschi et al. Lifetime and actual prevalence of pain and headache in MS. Pain Res Manage 2007;12(4)

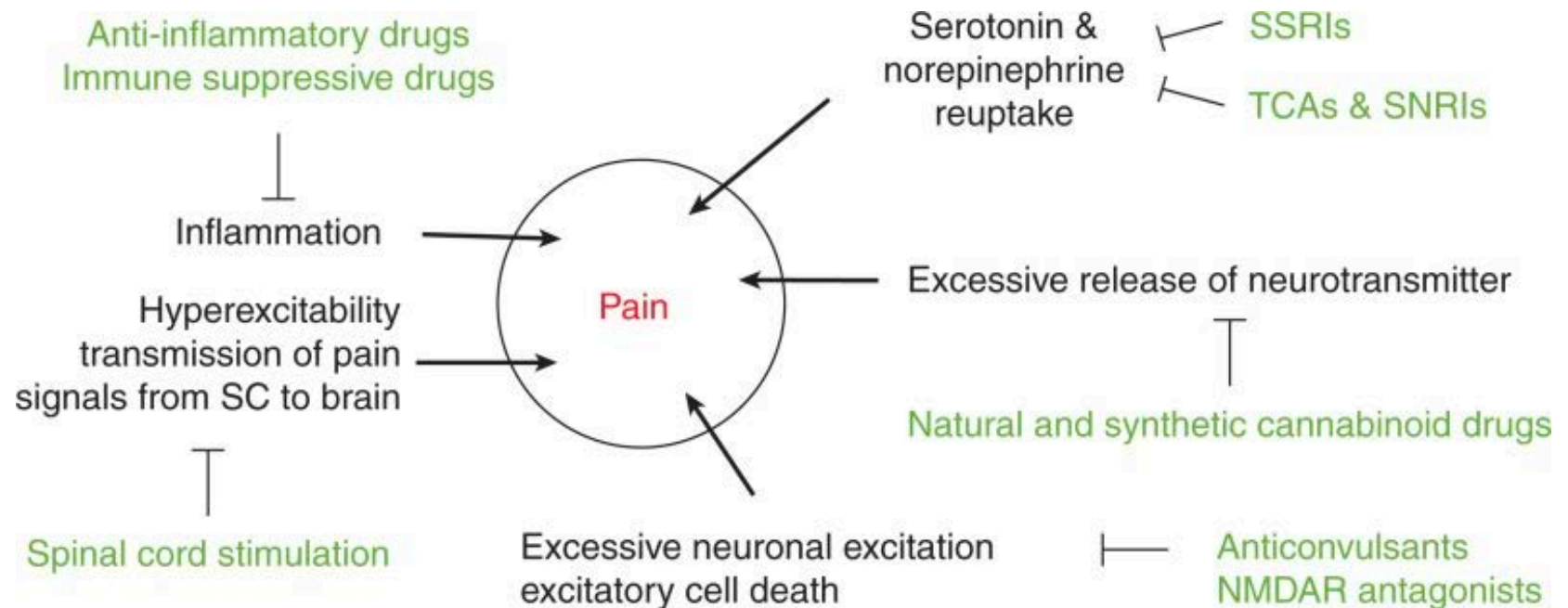
"YOUR SUNDAY FUNNY"

BY DOUG ANKERMAN

"YOU'VE HAD MS SO LONG, THE MRI TECHNICIAN RECOGNIZES YOUR FEET."



How do we approach this multifaceted problem??



Treatments For Neuropathic Pain

- Tricyclic antidepressants (TCAs): Amitriptyline, Nortriptyline
- Serotonin and norepinephrine reuptake (SNRI): Venlafaxine, Duloxetine
- Gabapentin and Pregabalin
- Antiepileptic or anti-seizure medications: Carbamazepine/Oxcarbazepine, Lamictal and Topiramate
- Topical Agents: lidocaine
- CBD

Treatments For Spasticity +/- Pain

- Baclofen
- Zanaflex (tizanidine)
- Dantrolene
- Benzodiazepines
 - Klonopin (clonazepam)
 - Ativan (Lorazepam)
 - Valium (diazepam)

Outside of medication...

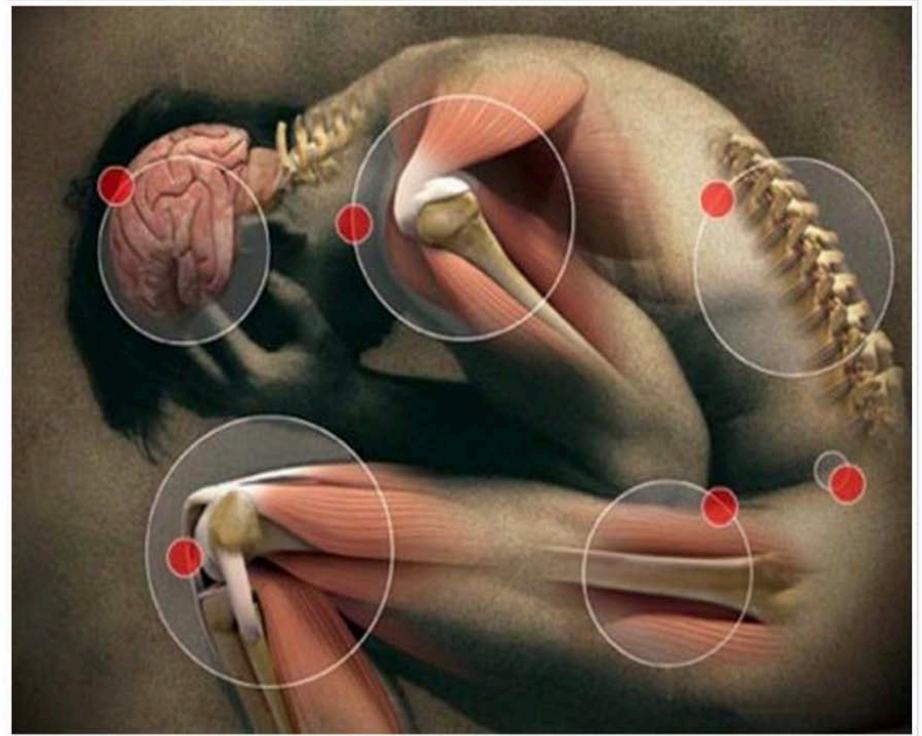
- Education: Goal for pain management: Increase functionality because we commonly can't fully alleviate pain
 - Reduces the threat associated with pain and learning positive coping strategies
- Activity: increases health of tissues; nourishes brain as it reestablishes functional sensory and motor functions
- Healthy Behaviors: diet, relaxation strategies, love, spiritual health, physical therapy/activity

A complex disease requires a comprehensive approach

- Most of the illnesses we are discussing are not curable
 - Treatments can help modify or slow the disease course, treat relapses (also called attacks or exacerbations), manage symptoms, improve function, and address emotional health
- Involves the expertise of many different healthcare professionals including mental health professionals

Depression and Pain

- Individuals who are depressed are more likely to report pain
- When both pain AND depression are present treatment should target both



Questions?



2020 RNDS



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Symptom Management: Managing Spasticity and Tone