MS Relapse Management: Team Approaches

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Models of Relapse Management

- Relapse care occurs in many settings
- Efficient cost effective model of care a desirable outcome regardless of health care system

Relapses are a:

- Significant occurrence in course of MS
- Marker of disease activity and therapy efficacy
- Serious relapses require urgent interventions
- Reason many patients seek emergency care

Outline

Colleen Harris
- Diagnosis of true relapse and pseudo relapse
- Impact and psychosocial issues

Dr. Sarah Morrow
- Treatment of relapses
- MRI and cognitive relapses
- What to do with ongoing relapse activity

Dr. Lacey Bromely
- Rehab and MS Relapses

What is a relapse?

- NEW symptoms of neurological dysfunction

OR
- Worsening of symptoms that have been stable for the last 30 days
- Acute or subacute onset
- **Lasting more than 24 hours**

- Not attributable to another cause
  - **not a pseudo-relapse****

Polman et al, *Ann Neurol 2005*
Schumacker et al, *Ann NY Acad Sci 1965*

Typical lesion location

- Spinal cord/Myelitis 50%
  - partial sensory or motor (sensory more common)
  - Band like abdominal or chest sensation
  - Bowel and bladder dysfunction common
- Optic Neuritis 25%
  - Typically unilateral, painful
  - Retrobulbar (no retinal exudates or disc swelling)
- Brainstem 15%
  - Ocular motor syndrome
    - Intranuclear ophthalmoplegia (INO)
  - Trigeminal neuralgia

O'Riordan et al 1998
Frohman et al 2007

What is a pseudo-relapse?

- Recurrence of old symptoms might be a *pseudo*-relapse
- PSEUDO means "false"
  - Mimics a relapse
- NOT due to a new demyelinating lesion
  - Thought to be due to conduction block in poorly remyelinated axons
- Usually caused by some underlying stress
  - Remove underlying cause = resolution of symptoms

Causes of pseudo-relapses

Increase in body temperature

- External source
  - Ambient (humidity)
  - Hot shower
  - Hot tub/sauna
- Internal Source: Infection
  - UTI
  - Respiratory

- Stress
- Physiological OR psychological
- Correlation between subjective report of acute high stress and relapses
- No correlation found with with chronic stressful situations

Brown et al *Mult. Scler. 2006*

Do relapses matter?

- Recent research suggests that there is a disassociation between frequency of early inflammatory events and the onset of secondary progressive MS Scalfari, A et al JAMA Neurol 2013 Feb: 70(2) 214-22
- Alternatively some research suggests poor recovery after first two events is associated with a poor outcome 5 years later Scott et al J Neurol Sci 2010;292:52-56
- This questions the validity of relapse frequency as a marker for late disability
- But what about the immediate impact of relapses?

Residual deficits

- 42% of patients had a residual deficit of at least .5 of a EDSS change

AND

- 28% of patients had a change of 1.0 or more at 64 days post exacerbation
- This demonstrates the measurable sustained deficits from relapse activity

Lublin FD, et al Neurology (2003) 61:1528-32

Patient Self Assessment

- Recognition of new or worsening symptoms
- Importance of infection screening
- Impact of core body temperature
- Minor relapses should be documented
- Role of increased fatigue and cognitive changes

Ross et al Int J MS Care 2012;14:148-159

Relapse Assessment

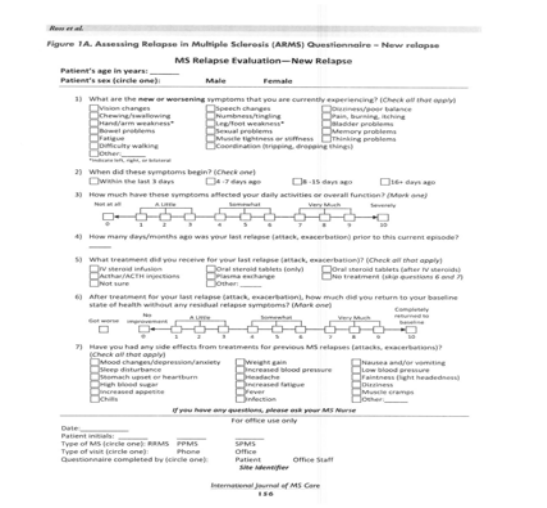

Figure 1A. Assessing Relapse in Multiple Sclerosis (ARMS) Questionnaire – New relapse

MS Relapse Evaluation—New Relapse

Patient's age in years: _____

Patient's sex (circle one): Male Female

1) What are the **new or worsening** symptoms that you are currently experiencing? (*Check all that apply*)

- ☐ Vision changes
- ☐ Chewing/swallowing
- ☐ Hand/arm weakness*
- ☐ Bowel problems
- ☐ Fatigue
- ☐ Difficulty walking
- ☐ Other:_____

*Indicate left, right, or bilateral

- ☐ Speech changes
- ☐ Numbness/tingling
- ☐ Leg/foot weakness*
- ☐ Sexual problems
- ☐ Muscle tightness or stiffness
- ☐ Coordination (tripping, dropping things)

- ☐ Dizziness/poor balance
- ☐ Pain, burning, itching
- ☐ Bladder problems
- ☐ Memory problems
- ☐ Thinking problems

2) When did these symptoms begin? (*Check one*)

☐ Within the last 3 days ☐ 4 -7 days ago ☐ 8 -15 days ago ☐ 16+ days ago

3) How much have these symptoms affected your daily activities or overall function? (*Mark one*)

Not at all | A Little | Somewhat | Very Much | Severely

0 1 2 3 4 5 6 7 8 9 10

4) How many days/months ago was your last relapse (attack, exacerbation) prior to this current episode?

_____

5) What treatment did you receive for your last relapse (attack, exacerbation)? (*Check all that apply*)

- ☐ IV steroid infusion
- ☐ ACTHar/ACTH injections
- ☐ Not sure
- ☐ Oral steroid tablets (only)
- ☐ Plasma exchange
- ☐ Other: _____
- ☐ Oral steroid tablets (after IV steroids)
- ☐ No treatment (*skip questions 6 and 7*)

6) After treatment for your last relapse (attack, exacerbation), how much did you return to your baseline state of health without any residual relapse symptoms? (*Mark one*)

Got worse | No improvement | A Little | Somewhat | Very Much | Completely returned to baseline

0 1 2 3 4 5 6 7 8 9 10

7) Have you had any side effects from treatments for previous MS relapses (attacks, exacerbations)? (*Check all that apply*)

- ☐ Mood changes/depression/anxiety
- ☐ Sleep disturbance
- ☐ Stomach upset or heartburn
- ☐ High blood sugar
- ☐ Increased appetite
- ☐ Chills
- ☐ Weight gain
- ☐ Increased blood pressure
- ☐ Headache
- ☐ Increased fatigue
- ☐ Fever
- ☐ Infection
- ☐ Nausea and/or vomiting
- ☐ Low blood pressure
- ☐ Faintness (light headedness)
- ☐ Dizziness
- ☐ Muscle cramps
- ☐ Other:_____

If you have any questions, please ask your MS Nurse

For office use only

Date:_____

Patient initials: _____

Type of MS (circle one): RRMS PPMS SPMS

Type of visit (circle one): Phone Office

Questionnaire completed by (circle one): Patient Office Staff

Site Identifier

International Journal of MS Care

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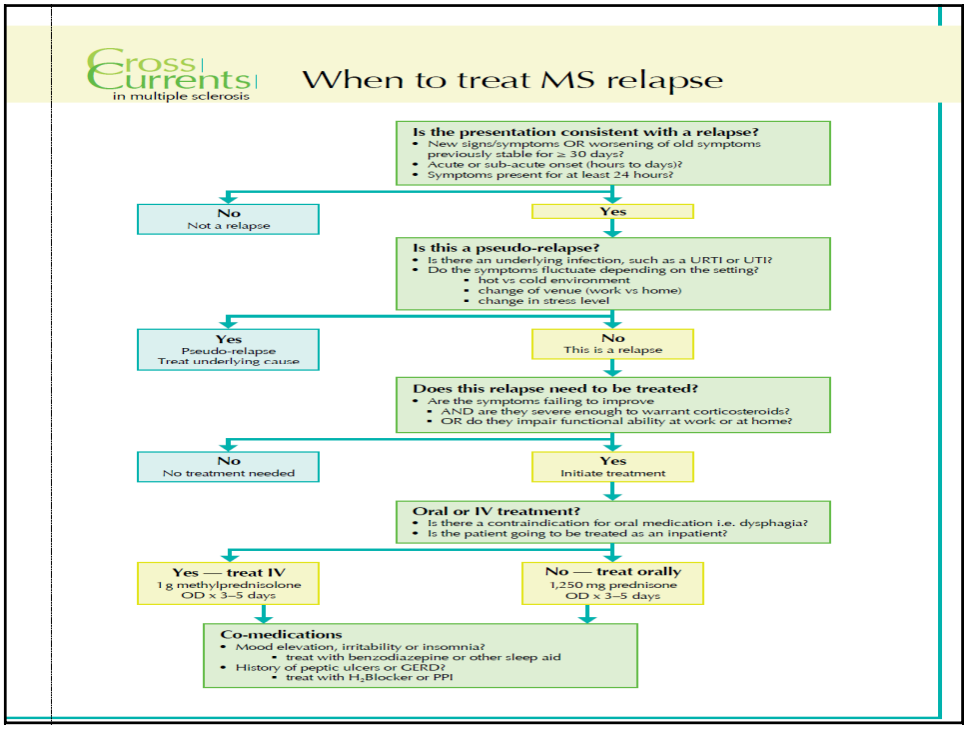
So…when do you treat a relapse?

- Decision to treat is based largely on the functional impact of the relapse
- Thorough neurological assessment – neuro exam, EDSS, timed 25 walk, 9 hole peg test, symbol digit modality (helpful for clinician and patients to determine relapse impact).
- Joint decision between you and the patient
  - Rarely treat sensory only relapses
  - Always treat disabling relapses



Psychosocial Impact of Relapses

- Depression has been linked to exacerbations of MS
- Dalos et al (1983) measured psychosocial distress with self report scale and noted higher levels of distress related to social dysfunction and somatic complaints in MS patients experiencing relapses
- Kroencke et al (2001) found that lowered mood at time of relapse was associated with uncertainty about illness, and proposed problem focussed coping, cognitive reframing and constructive coping as strategies to help.

Common Issues at Time of Relapse Assessment

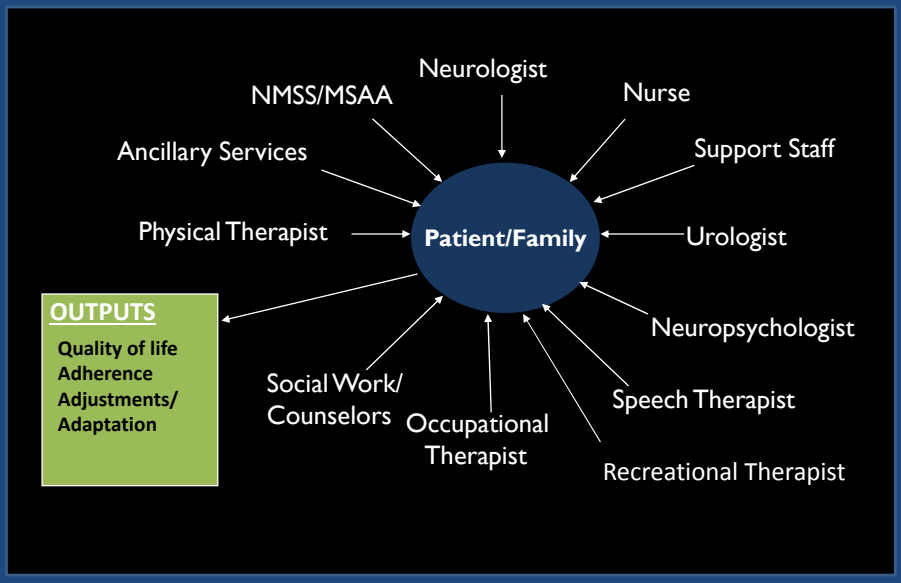
- Anxiety about disease progression
- Anxiety about efficacy of current DMT
- Work related Issues
- Parenting difficulties
- Mobility and access issues
- Driving safety
- Marital and family discord

Halper J, Journal of Neur Sci (2007)

Implications for Multidisciplinary Team

- Significant relapses require care plan and life style changes
- Outcomes can be greatly improved with involvement of the care team
- Outside of the comprehensive care centre challenges exist to obtain psychosocial and rehabilitative services
- However still the optimal goal of effective MS care

The Multiple Sclerosis Team



Relapse Scenarios

Case #1

- A 34 year old woman with a five year history of RR MS phones the clinic to report worsening of her bilat leg weakness, increased tone in both her lower limbs, and new fatigue. She in currently taking fingolimod, baclofen, modafinil, and fluoxetine. During her last clinic visit her EDSS was determined to be 4.0 after recovery from a significant relapse. She now requests another course of high dose steroids.

Management Questions

- What would your initial assessment include?
- Is this a true relapse?
- When would you treat symptoms such as this with steroids?

Case #2

- A 24 year old woman with MS diagnosed three years ago presents to your practice. She has been taking DMT (glatiramer acetate) for two years with an inconsistent routine of injections and minimal healthcare follow up. She lives with her boyfriend and they have a very active lifestyle. She works full time and has a busy social life getting 3-4 hours of sleep each night and eating irregularly. Medications consist of DMT, OTC headache medications, oral contraceptive, and modafinil 200 mg. bid. She presents at your office complaining of nausea, vomiting, dizziness, and severe fatigue. Neurologic examination is negative except for a positive Romberg test. U/A via dipstick is positive for leukocyte esterase. Vital signs BP 120/80; HR 100, lungs clear. Patient is afebrile. LMP six weeks ago. (IOMSN, Case Study,2013)

Management questions

- Is this a relapse? Pseudo relapse?
- UTI? What is the differential?
- What tests are indicated?

Case #3

- A 28 year old male with a 5 year history of active MS reports to the clinic with a sudden onset of mild arm weakness and some subtle slurring of speech. He had been relapse free for the past 3 years since starting natalizumab. He is anti JC virus positive, and he has previously been treated with interferon 1-a and mitoxantrone. His only other medication was multivitamins and vitamin D. His recent urine culture is negative for an infection.

Management Questions

- Is this an MS relapse?
- What are your concerns given the patient history?
- What other tests might you obtain?
- Would you treat with steroids?

Case #4

- A 32 year old woman is referred back to your practice. She has a 7 year history of RR MS and was started on her second DMT (interferon beta 1-a by sc injection) six months ago. She experienced an episode of optic neuritis shortly after starting her DMT, and now reports with a 10 day history of right sided sensory loss that is impacting her AADL. EDSS is 3.5. Other medications include modafinil, solifenacin, and vitamin D 4000 IU. A recent urine culture was negative for infection and she reports excellent adherence to her DMT .

Management Questions

- Would you treat this as a relapse?
- What are your concerns about this patient?
- What other tests might you order?
- What other treatment recommendations might you suggest?