LEARNING OBJECTIVES

• Evaluation of sensory loss requires a broad differential diagnosis.
• Multiple sclerosis (MS) involves central nervous system (CNS) deficits disseminated in time and space.

1. Recognize the diagnostic characteristics of relapsing-remitting multiple sclerosis (RRMS), and differentiate it from other forms of the disease.
2. Outline treatment options for RRMS.

CASE

PRESENTATION

A previously healthy 28-year-old male presented to his primary care physician with a 3-week history of new left-sided hand and forearm numbness and tingling.

• His symptoms had been getting progressively worse, and he had also developed a lack of coordination with his left arm, as well as an exaggerated sensation of coldness in the extremity.
• The patient also had a 1.5-week history of similar sensation of numbness and tingling in his left thigh and foot, however this had already begun to resolve.

EXAMINATION

• The patient was unable to distinguish a nickel from a quarter in his pocket using his left hand.
• A complete neurological exam was otherwise intact.

PERTINENT STUDIES

• B12, TSH, ANA, ESR/CRP, and CMP were within normal limits.
• Vitamin D 25-OH was low.
• MRI of the brain and C-spine revealed multiple scattered white matter lesions with faint enhancement in the right parietal lobe, left cerebral peduncle, left lateral cord margin at C2-C3, and along the left posterior cord margin at C3-C4.

CLINICAL COURSE

• The patient was diagnosed with early RRMS.
• He was started on treatment with glatiramer acetate via subcutaneous injection three times weekly.
• Vitamin D was supplemented.

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DISCUSSION

MS is an autoimmune inflammatory CNS demyelinating disease.

Mean age of onset is age 28-31

Affects females more often than males in a ratio of up to 3:1.

Diagnosed clinically using the McDonald criteria (see above).

Characteristic lesion demonstrated by MRI is the cerebral or

spinal plaque, which is classically found in the periventricular

This patient fulfilled criteria for RRMS given that his left leg symptoms followed a distinct time course from his left arm symptoms.

No consensus guidelines exist for treatment of RRMS.

Therapies are not cures; only partially effective in reducing the relapse rate.

Choice of therapy individualized based on disease activity and patient values.

Treatment options:

Natalizumab infusion therapy (most effective)

Interferon beta-1a or glatiramer acetate injection therapy (best safety profile)

Oral therapy with dimethyl fumarate, teriflunomide, or fingolimod (most convenient).

REFERENCES