Consensus on management of Flu Like Symptoms During Interferon beta Therapy for Multiple Sclerosis


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Background

First line use of interferon in the early treatment of Multiple Sclerosis (MS) is widely accepted treatment choice. Post-injection reactions, often termed flu-like symptoms (FLS), are common symptoms in individuals taking interferon-based therapies. FLS can be managed with lifestyle and medication modification.

FLS (for the purpose of the consensus) are defined as: pyrexia, chills, malaise, myalgia and headache. These symptoms may resolve within 24 hours or persist intermittently with recovery.

Objective

To define treatment consensus for the management of FLS related to beta interferon therapies in MS.

Methods

A panel of 9 national expert nurses was convened and a literature review was completed. Each symptom was examined along with the proposed treatment, the scientific merits of the intervention and the observed response. Categories identified and discussed were: analgesics, timing, timing and as well as general intervention protocols. Consensus was obtained and treatment recommendations were made as a best practice approach to the most common FLS reported.

Definitions of Individual Flu-like Symptoms

Pyrexia

Pyrexia is characterized by an elevation of temperature above the normal range of 36-37.5°C (96.8-100°F) due to an increase in the body temperature regulation set point. Consensus was achieved regarding the administration of antipyretics (e.g. acetaminophen, ibuprofen) in the setting of FLS.

Myalgia

Myalgia or muscle pain in MS, which is a traumatic injury, for the most part, is related to precipitating release following interferon beta therapy or muscular pain interpreted as muscular pain post injection.

Headache

Cephalalgia or headache is a non-specific symptom with many possible causes. It is defined as pain anywhere in the region of the head and neck. While the brain itself has no pain receptors, there can be a disturbance of pain-sensitive structures around the brain: the periorbital pain, muscle, auras, and veins, arteries, sensory and motor nerves. Headaches generally occur in individuals with MS are: migraines, tension-type, cluster and trigeminal autonomic cephalalgia.

Management of FLS

Treatment

Following patients about the timing of their injection is a key component to the success of reducing the flu-like symptoms, especially during the first few months of therapy when the risk is highest for non-adherence. Singer noted in 2007 that at existing administration was the recommended time for the majority of patients initiating treatment with interferons. Consensus on the panel agreed for a small percentage of patients causing the patient at the beginning of the day to be an effective coping strategy for FLS. The duration of a workday would allow the patient to address their concern about FLS and relate their injection with their schedule.

Flu-like Symptoms

Traction

Another effective strategy to help reduce FLS when initiating IFN-β is to institute traction. Research including dose escalation protocols have found those on traction schedules experienced FLS that were less severe and less pain. One study by Miyake, et al published in 2011 compared IFN-β 1a in 24 healthy volunteers administering intermittent IFN-β 1a without traction and in another varying injection schedules. One group titrated at 40 µg with the first dose being reduced by 20 µg for the second dose. The second group undertook a no-traction regime consisting of 4 dose increases every two weeks until a full four was achieved after 16 weeks versus 8 weeks of treatment. Severity and incidence of FLS were significantly reduced in the two traction regimes compared with the no-traction group at weeks 7 and 27-31 post injection.

Conclusion

Long term adherence to a treatment regime for a chronic illness, such as MS, is needed but difficult to maintain. The use of dose modifying regimens (DMRs) have been the backbone of first line MS treatment for years with good safety records but are accompanied by a number of side effects. One of the most common first line therapies are beta interferons, which by mode of action cause symptoms of fatigue, malaise, chills, fever, headache, and myalgia, known as FLS. It is found through experience that minor adjustments can facilitate medication adherence significantly. Offering providing MS care other than to reduce the number of side effects. These processes may or may not be supported with evidence-based medicine.

References

For this paper available as a supplemental hand out upon request.

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Management of FLS, cont.

Analgesic Management of FLS

Pharmacological agents with appropriate pain intensity and distribution may help to reduce FLS. Analgesics are administered early in the on-set of symptoms to reduce pain intensity and help patients return to their baseline activity level.

Defining the onset of symptoms is a critical component to timely pain management.

Medication Tolerance

Patients who experience FLS with interferon therapy may experience a decrease in medication tolerance with subsequent dosing. Experienced providers have noted that patients may require a decrease in dosing or an increase in time between dosing to prevent FLS.

Hypothermal Traction

The use of hypothermal traction can help to reduce FLS by decreasing the duration of symptoms. Studies have shown that hypothermal traction can help to reduce the duration of symptoms by decreasing the time to recovery.

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Temperature

A temperature reading of 36°C (96.8°F) or higher is considered a fever and may indicate the presence of FLS. Patients who experience a significant increase in body temperature may benefit from reduced dosing or a decrease in time between dosing to prevent FLS.

Management of Flu-like Symptoms, cont.

Interferon-induced side effects: The use of hypothermal traction can help to reduce FLS by decreasing the duration of symptoms. Studies have shown that hypothermal traction can help to reduce the duration of symptoms by decreasing the time to recovery.

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