

YOU'RE THE FLIGHT SURGEON

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You are a flight surgeon at an AFB in the southeastern United States. A 36-yr-old systems management officer (a crewmember who works in the back of an aircraft optimizing radar systems) with 14 yr of military service comes to see you for an initial evaluation. His complaint is that he runs into walls when he walks down hallways. Despite trying to walk straight, he veers to his right side and runs into the wall. He did not notice any problem with this until about a week ago. He denies any recent congestion, coughing, ear blocks, or generally feeling ill. However, he has had some intermittent alternating weakness in his legs.

1. What should you be considering in your differential diagnosis as you complete his history and physical exam?
 - A. Viral labyrinthitis
 - B. Otitis media
 - C. Multiple sclerosis
 - D. Middle or inner ear tumor
 - E. All the above

ANSWER/DISCUSSION

- E. All the above is the best answer. At this stage you have not completed your history or physical exam and cannot rule out any of these conditions, which are possible causes for this flyer's symptoms. You ask the flyer about his family history and discover that he has two close family members with multiple sclerosis. And his physical exam is Romberg positive.
2. Now what do you do?
 - A. Diagnose the flyer with multiple sclerosis and permanently remove him from flying status.
 - B. Temporarily remove the flyer from flying status while further work-up is done to confirm his diagnosis.
 - C. Start a medical evaluation board (a military medical evaluation to determine fitness to remain an active duty military member) on the flyer.
 - D. Order an MRI of the brain and refer him to the nearest neurologist.

ANSWER/DISCUSSION

2. B and D. Removing the flyer from flying status, continuing evaluation, and referral to a neurologist is the best answer. Although the history of migrating weakness of the legs, positive family history of multiple sclerosis, and positive Romberg test are consistent with a diagnosis of multiple sclerosis, you do not have enough information for a definitive diagnosis. A diagnosis of multiple sclerosis can permanently remove this individual from flying status and possibly end his career in the Air Force, so a diagnosis of this magnitude should only be made after thorough evaluation and specialty consultation. Specialty consultation and appropriate diagnostic work-up is also required for an MEB (Medical Evaluation Board; this is a military medical board that evaluates a military member's fitness to remain on active duty).

You explain to the flyer that multiple sclerosis might be the cause of his symptoms, but that you are not going to give him that diagnosis until he is fully worked up and evaluated by a neurologist. You temporarily remove him from flying status, order an MRI of the brain, and put in a consult request for neurology. A week later, the flyer returns with his MRI films and to find out the results of his neurology

consult. His MRI has multiple lesions consistent with multiple sclerosis as reported by the radiologist. The neurologist's report states that his history and physical are consistent with multiple sclerosis and he recommends treatment with Avonex (generic name: Interferon beta-1a). Now you confirm what the flyer already knows, that he has multiple sclerosis. He has put in 14 yr of service and he does not want to leave the Air Force. You discuss with him what he would like to do in the Air Force since there is very little chance that he will be allowed to remain on flying status. He says he has spent time at the School House training other flyers and loves to teach. He does not demonstrate any noticeable cognitive deficit nor was any mentioned in the neurology consultation. Therefore, you determine that his condition is not compatible with flying, but that he is still a valuable asset to the Air Force as an experienced instructor.

3. What must be done now before you can state in an MEB that in your opinion he is capable of performing the duties of a ground instructor and should be retained on active duty?
 - A. Order more lab tests.
 - B. Nothing, start writing the MEB narrative.
 - C. Complete a ground trial of Avonex to see how he tolerates it and if it controls his symptoms.
 - D. Obtain a follow-up evaluation note from the neurologist regarding the effectiveness of the Avonex.

ANSWER/DISCUSSION

3. C and D. Complete a ground trial of Avonex and follow up with the neurologist. The diagnosis has been made, so no further labs need to be ordered. The flyer is not fit for active duty in his current condition, so doing nothing is substandard care. To substantiate his fitness to remain on active duty there must be documentation to show that his symptoms are controlled and that he tolerates the medication. Both the flight surgeon and the neurologist must document this.

There is one more thing that you should do before allowing this flyer to leave your exam room today. Although he may not have complained about his vision, you should do a thorough ophthalmic exam. Optic neuritis is common in multiple sclerosis patients and should be treated promptly when found to prevent as much damage as possible to the eye.

You examine his eyes and find what looks like a small degree of swelling of the optic disc, but you are not sure.

4. How would you verify your findings?
 - A. Have another flight surgeon take a look.
 - B. Call the optometrist and escort the flyer to the optometrist's office for a full eye evaluation.
 - C. Go back to your office and consult an ophthalmology textbook that contains pictures of swelling of the optic disc.

ANSWER/DISCUSSION

4. B. Take the patient to optometry. The optometrist usually has the best equipment in most ambulatory military medical facilities for doing a good exam of the optic nerve. However, if there is no optometrist available, a colleague or text should be used. In this case an optometrist was available and confirmed the swelling of the optic disc. Since you do not have admitting privileges at the local off-base hospital (your base only has an ambulatory clinic facility) you consult with an internist to admit the flyer for a short course of intravenous steroids to resolve the swelling of the optic disc.

The flyer's mild optic neuritis resolved with the intravenous steroid treatment and he successfully completed his ground trial of Avonex and a follow-up note from the neurologist reflected this favorable outcome. A request for permanent removal from flying status was submitted and an MEB was written reflecting his favorable response to treatment and his fitness to remain on active duty as an instructor, which was also supported by his squadron leadership. He was removed from flying status and granted an assignment limitation code which limited him to assignments within the United States near medical facilities capable of providing the medical follow-up he required.

DISCUSSION

Current U.S. Air Force policy on multiple sclerosis in aviators is that it is disqualifying for flying duties due its unpredictable nature. However, aviators who have had only one episode and remain symptom free for 1 yr may be considered for waiver after Aeromedical Consultation Service evaluation. The information required for a waiver is a neurology consultation, ophthalmology consultation, evoked potentials, CSF studies, and a MRI of the brain.

The U.S. Army and Navy policies are to permanently disqualify aviators with multiple sclerosis without waiver. Both services make an exception for monosymptomatic multiple sclerosis after an extensive workup. The Federal Aviation Administration also considers multiple sclerosis a disqualifying disease for civilian aviators, but will waiver stable disease.

In summary, multiple sclerosis is an unpredictable progressive demyelinating disease. The progression of the disease in each aviator is different. This makes it very hard to predict how the disease will affect flight safety from day to day. However, even those aviators who are diagnosed relatively late in their disease progression can still make valuable contributions to the U.S. Air Force as ground instructors if they are inclined to do so. This aviator was permanently removed from active Air Force flying status, but was determined to be fit to remain on active duty by the medical evaluation board. His command kept him as a ground instructor in the training squadron.

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