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Determination of Return to Play in Infectious Mononucleosis

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Return to Play Guidelines: Infectious Mononucleosis

Tessa Barclay

Family Medicine Clerkship Rotation

Jan 29 – Mar 9, 2018

Mentor: Dr.



The University
of Vermont

LARNER COLLEGE OF MEDICINE

Infectious Mono + Athletics

- Infectious mono incidence rate among young adults = 1-3%
- Incubation period = 30-50 days
- Symptoms typically begin as fever, malaise, and headache
 - Pharyngitis develops in 80% of those affected
 - Splenomegaly occurs in 50-100%
- Characteristic exam findings:
 - Posterior cervical lymphadenopathy
 - Tonsillar enlargement or exudate
 - Palatal petechiae
 - Splenic enlargement

Splenic Rupture

- Rare complication: occurs in 0.1 – 0.2% of cases
- Can occur spontaneously, or as a result of Valsalva or trauma
- Most cases occur in the first three weeks of illness
 - Cases of splenic rupture have been reported up to 7 weeks following disease onset
- Myths and misconceptions
 - Splenic ultrasound has not been validated to be helpful in the assessment of splenomegaly
 - In a study of baseline splenic size in 631 healthy athletes, 7% met the criteria for splenomegaly
 - Physical exam is unhelpful in determining splenic size
 - Combined palpation and percussion to assess splenomegaly has sensitivity of 46% and specificity of 97%

Public Health Costs

- Splenic rupture is due to trauma in 86% of cases
 - 14% occur spontaneously
- EBV infection associated with development of malignancies later in life including:
 - Nasopharyngeal carcinoma
 - Burkitt lymphoma
 - 85% of Burkitt lymphomas in Africa are EBV positive
 - Hodgkin lymphoma
 - 40% in developed countries and 80% in developing countries are EBV positive

Community Perspective

- On return to play implementation:

“I follow the following framework. I keep people out of all athletic activities for three weeks from the onset of symptoms. To determine the onset of symptoms I take a careful history to figure out when they started feeling poorly. If there is ambiguity, I err on the more cautious date of onset. After three weeks I allow individuals to return to noncontact sports activities. I hold off on adding contact sports and higher level resistance training until the four-week mark. At four weeks most individuals are back to full unrestricted participation in their sport.”

Dr. Matthew Lunser

UVM Team Physician

Community Perspective

- On the ambiguity of date of onset, and the challenges of convincing patients who may already have resumed athletic participation when it was not safe to do so:

“You have to balance textbook physiology with real life pragmatism.”

Wayne Warnkan, MD

CHCB Physician

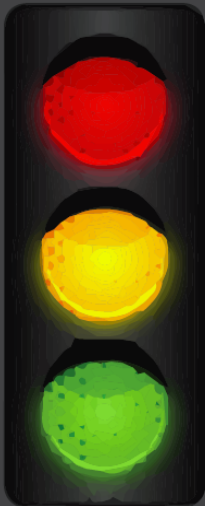
Intervention and Methodology

- Family physicians are often the first to evaluate athletes with suspected infectious mono, thus clear, universal guidelines for determining return to play are essential
- Intervention: develop pictorial representation of current return to play guidelines for athletes with infectious mono
 - Highlight indications for preventing return to play
 - Acknowledge areas of ambiguity in diagnosis
 - Provide evidence-based recommendations to help prevent unnecessary testing
- Ensure dissemination of information to both physicians and coaches to avoid premature return to play
 - Due to delay in diagnosis, including description of signs and symptoms of infectious mono ensures athletes do not resume activities with possible splenomegaly

Results

- Staged diagram indicating parameters to be met for progressive return to play
 - List of symptoms of infectious mono such that if an athlete presents with these consideration should be given to restricting play
 - Suggestions for decision making when actual timing of infection onset is unclear
- Description of symptoms of splenic rupture indicating immediate emergency evaluation

RETURN TO PLAY GUIDELINES



RESTRICT ALL ATHLETIC ACTIVITY IF:

- Patient has fatigue, pharyngitis, lymphadenopathy, and fever regardless of monospot/EBV serology testing if clinical suspicion for infectious mono
- Less than four weeks have passed since onset of symptoms
- *Long incubation period + prodromal symptoms may confound accurate determination of infection onset; when in doubt err on side of caution

RETURN TO LIGHT ACTIVITY IF:

- Patient is 3 weeks out from onset of symptoms
- Patient is afebrile
- Patient has acceptable energy levels
- Patient does not participate in athletic activity involving contact or increased abdominal pressure (e.g. rowing, weightlifting)

RETURN TO FULL ACTIVITY IF:

- 4 weeks or longer have passed since onset of symptoms
- Patient is afebrile
- Patient has acceptable energy levels
- Resolution of all symptoms is evident

RED FLAG SYMPTOMS

- ABDOMINAL PAIN
- L. SHOULDER PAIN
- TACHYCARDIA
- HYPOTENSION

Evaluation and Effectiveness of Limitations

- Main benefit is in saving provider time
 - Consolidating the information and making it more accessible saves the provider an extensive literature search
 - Incidence of splenic rupture is so low that rupture itself would not be an effective outcome to measure
- Diagnostic ambiguity regarding date of onset of illness will persist, but trend toward assuming shorter length of infection will protect athletes given peak of splenomegaly occurs ~3 weeks post-infection
- Predicted increased patient satisfaction if criteria for return to play is made clear from onset
 - Athlete may still be playing sport at time of diagnosis, thus having clear framework in place can prevent distress over taking leave of absence from activity

Recommendations for Future Interventions

- Serial ultrasounds to measure arc of change of athletes' spleens during mono infection
 - While studies estimate splenomegaly develops in 50-100% of cases of infectious mono, none have looked at the degree of change from baseline spleen size and time course of regression
 - Current recommendations advise against splenic imaging due to lack of baseline against which to compare
 - This information would be helpful in providing a more accurate window of time in which contact sports should be absolutely avoided
- Development of EBV vaccine
 - Current efforts have been focusing on gp350, which is highly conserved among EBV strains
 - EBV infection linked to development of nasopharyngeal carcinoma and Hodgkin lymphoma, thus a vaccine preventing these outcomes is highly desirable

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Name: Matthew Lunser  3/2/18
Yes / No
If not consenting as above: please add the interviewee names here for the department of Family Medicine information only.

Name: _____


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Wayne Warnken, MD