INFECTIOUS MONONUCLEOSIS IN THE IN-SEASON ATHLETE

SPECIAL THANKS TO DONELLA HERMAN

ATPC
OBJECTIVES

- Review AMSSM position statement on management of Mononucleosis in athletes.
- Review recent research in the area of return to play after Mononucleosis.
- Discuss current weakness in our research and possible areas for future research.
- Consider areas to address in the next update of the AMSSM position statement.
CURRENT RECOMMENDATIONS
Supporting labs include absolute and relative lymphocytosis with >10% atypical lymphocytes on smear and MonoSpot testing
   + False negative rate higher in first week of illness.

Supportive care is the treatment
   + Role of antivirals and corticosteroids unclear
   + Consider corticosteroids for specific complications
      ✗ Airway compromise
      ✗ Hemolytic Anemia
      ✗ Thrombocytopenia
      ✗ Myocarditis
Extrapolated risk of splenic rupture: 0.1-0.5%
Physical exam is not a reliable means of assessing spleen.
One time imaging to assess the spleen is not recommended unless there is concern for rupture.

If there is concern for rupture, CT should be obtained.
If imaging is obtained to evaluate only size, consider serial exams w/ ultrasounds.
There is no data to correlate spleen size to risk of rupture.
If patient is afebrile, has good energy, and does not have complications at 3 weeks from onset, they can return to light activity.

Consider delaying return to play if complications are present.

Risk for splenic rupture decreases with time, so athlete, sport and other factors should be considered in return to play.

Premature return to heavy exertion may prolong fatigue but it is unclear how light exercises impacts the natural history of the disease.
POSSIBLE CLINICAL SCENARIO
INFECTIOUS MONO CASE
(JUST FOR THE SAKE OF ARGUMENT)

- 19 yo college basketball player with classic symptoms and lab workup c/w IM
- 6’8” power forward, starter at mid-season
- At one week he is afebrile and no longer fatigued (no other complicating symptoms)

Now what do you do?
What all should be considered?
RISK FACTORS FOR CONTRACTING EBV²

- Prospective cohort study, 510 seronegative students were found on enrollment
- 241 available for retesting 3 years later, 110 of which had seroconverted.

- Risk Factors: Sexual intercourse
Prospective study looked at chronic fatigue for 2 years after IM diagnosis in adolescents.

301 adolescents 12-18 screen at 6, 12 and 24 months after diagnosis.

Chronic Fatigue: 13% at 6 months, 7% at 12 and 4% at 24 months.

Use of steroids in acute phase did not increase risk.

All adolescents with chronic fatigue at 24 months were female.
19 subjects were followed prospectively from time of onset of IM at 1 month with US to measure splenic dimensions. 84% had normal splenic dimensions 1 month after diagnosis and allowed to return to contact sports. The remaining 16% had normal dimensions at 2 months and were allowed to return. Serial abdominal US allows for informed decision making in return to contact after IM.
66 healthy student athletes underwent sonography to measure spleen size. Males were an average of 192.26 cm tall, 220 pounds with BMI 25.43. Females were an average of 176.54 cm tall, 150 pounds with BMI of 22.06.

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<tr>
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<th>Length</th>
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<tbody>
<tr>
<td>Average Normal</td>
<td>8.94 cm</td>
<td>8.55 cm</td>
<td>4.01 cm</td>
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<tr>
<td>Study Males</td>
<td>12.79 cm</td>
<td>9.27 cm</td>
<td>5.77 cm</td>
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<tr>
<td>Study Females</td>
<td>11.3 cm</td>
<td>8.33 cm</td>
<td>5.22 cm</td>
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Reviewed case reports of splenic rupture in IM from 1984-2014, finding 52 publications reporting 85 cases.

Average age 22, 70% males, average time from onset of symptoms and rupture 14 days, range up to 8 weeks.

Trauma in 14% of cases reported

32% managed non-operatively, 67% splenectomy, 9% mortality.

Men under 30 within 4 weeks of symptom onset are at highest risk of splenic rupture but risk may persist to 8 weeks.
CONSIDERATIONS FOR POSITION STATEMENT
UPDATES AND FUTURE RESEARCH

- Address the concerns for chronic fatigue syndrome and the impact it may have on athletic performance.
- Exploring antiviral therapies or potential vaccines to decrease clinical symptoms or prevent disease.
- What role exercise plays in the natural history of the disease and if it prolongs the course or contributes to poor outcomes.
- Explore further the spleen size in adults and adolescents based on gender, age, weight, height and BMI and consider serial ultrasounds in return to play decision making.
CITATIONS


