

## Collegiate Soccer Athlete

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### BACKGROUND

#### PATIENT

- 18 year old division III female soccer athlete

#### HISTORY

- Amplified Musculoskeletal Pain Syndrome in an 18-Year-Old Female Collegiate Soccer Athlete.
- Over the span of 2 weeks she had multiple hospital visits because of the severe 9/10 pain.
- She was diagnosed with a kidney infection from the Extended spectrum beta-lactamases (ESBL) bacteria, which caused ulcers to react with the surrounding nerves creating a constant sharp pain.
- Once the ulcers subsided, the patient reported amplified pain with activities such as lying, sitting, standing, walking, and sleeping.
- She reported to soccer preseason approximately 6 months after the original infection having lowered pain levels but still not fully participating in sport activities.

#### Special Test

- A physical and psychological exam were done to diagnose patient.

### DIFFERENTIAL DIAGNOSIS

- Amplified Musculoskeletal Pain Syndrome
- Pyelonephritis
- Vesicoureteral Reflux

### TREATMENT

#### INITIAL CARE

- Patient was treated for kidney infection by bed rest for 2 months.
- The patient was given Invanz from a PICC line.
- Patient was kept out of play due to the depilating pain, post recovery from kidney infection.
- Patient was referred to psychologist.

#### PHYSICIAN FOLLOW UP

- Patient had increased debilitating pain after her kidney infection subsided.
- Patient was referred to 5 weeks physical therapy.
- Diagnosis: Amplified Musculoskeletal Pain Syndrome

#### TREATMENT

- The rehab consisted of a "Return to Run Guideline" and several strengthening exercises.
- Strengthening exercises consisting of Lateral Band Walks, Hamstring Stretches with a Strap, Transverse Abdominal Exercise with Bent Knee Fall Outs, and Planks.
- The return to run guidelines consisted of warm up, stretching, jogging/walking, workouts, stretching, and ice; done twice a week with one day of rest in between.
- The workouts started at 1:1-minute jog/walk ratio and progressed to a 2:2, 3:2, 3:1, 4:1, 4:.30, 5:.30, 10:1, 20:0, 25:0.
- Patient could only move on in progression if the workout was done pain free. There were 11 progressions that varied in minutes.

#### RETURN TO PLAY

- Following physical therapy, the patient began a return to play program consisting of a core stabilization program and progressions consisting of individual drills, live drills, scrimmages, and games with gradual increased time and intensities.
- Patient was instructed to play as tolerated and often did alternative drills during practice.
- Patient reported having reduced pain at rest and increased pain occurring when stressed, increased intensity of activity, or playing more than 20 minutes, 2 months post rehab.
- Patient was monitored for an increased perception of pain for preseason and 6 weeks of the season.

#### FOLLOW UP

- Patient completed the soccer season with full participation.
- 1 year and 4 months post initial injury, patient is due for surgery to clean up scar tissue and damage from the injury.

### UNIQUENESS

- Amplified musculoskeletal pain syndrome is an umbrella term which incorporated most musculoskeletal pain syndromes.
- Most cases are female (80%) and the mean age of onset is 12 to 13 years.
- Patients usually experience this syndrome in combination with a predisposing factor of illness, injury, or stress.
- Signs of allodynia make the pain extreme, like "the breeze of someone walking by hurts".

### RELEVANT EVIDENCE

- In cases of treated patients there is a 15% relapse rate with patients in the first 6 months.<sup>1</sup> AMPS is recognizable by autonomic signs, allodynia, autonomic dysfunction of the limbs, or localized pain at the back, chest or jaw, from stimuli elsewhere.<sup>1</sup> Rehabilitation consists of a formal intensive program that focuses on re-establishing function without medication or use of modalities.<sup>1</sup> Treating the pain by desensitization takes about 3-4 weeks.

### CONCLUSIONS

- AMPS is very painful syndrome that is brought on by a neurologic response to injury, illness, or stress.
- This syndrome once recognized, is treatable but patients have long term complications which may rule them out from playing.
- As athletic trainers it is important to educate ourselves with AMPS and how we can recognize, treat and rehabilitate patients.

### REFERENCES

1. Sherry DD. Diagnosis and treatment of amplified musculoskeletal pain in children. *Clinical and Experimental Rheumatology*. 2001; 19:617-620.
2. Sherry DD. Amplified Musculoskeletal Pain: Treatment Approach and Outcomes. *Journal of Pediatric Gastroenterology and Nutrition*. 2008;47(5):693-694.