EFFECT OF MENSTRUAL DYSFUNCTION IN ADOLESCENT CONCUSSION PATIENTS ON LENGTH OF TIME TO RECOVERY AND SYMPTOM BURDEN

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Background: Concussions are one of the most common sport-related-injuries seen in the adolescent population. It is well known that female athletes are at higher risk for concussion, but factors that influence this risk, including hormonal influences, are not entirely known. There is no literature to date that explores the relationship between menstrual dysfunction (MD) and outcome measures of concussion.

Hypothesis/Purpose: Our primary purpose is to determine if MD predicts prolonged recovery from concussion and our secondary purpose is to determine if MD predicts a higher initial symptom burden.

Methods: Patients who presented to a pediatric sports medicine concussion clinic for an initial visit, were ≤18 years-old, and were at least 2 years post-menarchal were included in the study. Those who reported taking any hormonal medications, were pregnant, or who suffered symptoms greater than 180 days were excluded. Subjects who were >15 years old at menarche, experienced <10 menstrual periods per year or >35 days between cycles were categorized as having MD. Two linear regressions were analyzed to determine differences in initial symptom score and time to recovery between those with and without MD while controlling for age, history of headaches, and history of prior concussions.

Results: A total of 801 participants were included in the study (697 controls and 108 MD patients). There was no statistically significant difference in time to recovery between the groups (p=0.12). However, MD patients took 5 days longer to recover than controls (51.23 vs. 46.42 days). There was no statistical difference in initial symptom score between the MD and control groups (p=0.67, 56.04 for controls and 58.47 for MD).

Conclusion: No statistically significant differences were found in time to recovery after concussion or in initial symptom burden between subjects with MD and controls. Additional study is warranted to further characterize these relationships.

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