Diagnosis and Recognition of Supraventricular Tachycardia in a 19-Year Old Division I Collegiate Ice Hockey Player: A Case Study

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Background: This case presents a 19-year old male Division I collegiate ice hockey player with a height of 1.83 meters and a weight of 87 kilograms. The patient entered his freshman year of college with a history of occasional heart palpitations. The patient reported that during bouts of peak exercise, his heart began to beat rapidly. These episodes occurred with a sudden onset when he was exerting himself on the ice during competitions and practices. The patient did not report vertigo or syncope during bouts of associated palpitations. The patient reported an ability to manage the tachycardia with a valsalva maneuver. The patient had no history of hypertension, diabetes, dyslipidemia, smoking, or significant family history of coronary artery disease. However, his brother did have a history of heart palpitations as well. Approximately 2 years prior to entering college, the patient was examined by a cardiologist for his condition. Results of a 2-D echocardiogram were classified as normal at that time. Differential Diagnosis: AV reentrant tachycardia, AV nodal reentrant tachycardia, atrial tachycardia, sinus tachycardia, cardiac arrhythmia, valvular regurgitation.

Treatment: A thorough cardiovascular evaluation performed in March of 2008 revealed that the patient did not present with chest pain, vertigo, syncope or shortness of breath following exertion. An adult echocardiogram completed at this time revealed trace regurgitation of the mitral and tricuspid valves. The patient also presented with a mild (1+) pulmonic valvular regurgitation. The patient was diagnosed with supraventricular tachycardia. Despite this condition, his cardiologist cleared him to play with no restrictions. The patient was also ordered to discontinue the use of beta-blockers at this time.

Uniqueness: This patient has been diagnosed with supraventricular tachycardia, but he continues to participate at a high level of competition. This case is also unique because this particular patient can control bouts of tachycardia with the use of a valsalva maneuver. As a precaution, the patient’s athletic trainer constantly assesses his vital signs during episodes of tachycardia. His teammates and coaches are also aware of this condition. On one particular occasion, the patient suffered a tachycardic episode that lasted for over six minutes. The responding athletic trainer managed the situation by submerging the patient’s head into a cold whirlpool which caused an involuntary valsalva, correcting the heart beat. Conclusions: As athletic trainers, we are exposed to numerous orthopedic pathologies. However, we often have limited contact with patients suffering from cardiac conditions such as supraventricular tachycardia. This case demonstrates the need for athletic trainers to familiarize themselves with their patients’ entire medical histories, and to fully understand how cardiac conditions such as this one can be managed on a daily basis. This case study also helps to stress the importance of proper cardiac screening for all athletes. Word Count: 451