Atrioventricular Reciprocating Tachycardia in a High School Football Athlete
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**Background**: A 16 year old Caucasian interscholastic football athlete reported to the athletic trainer complaining of symptoms consistent with palpitations. The patient stated that he had been experiencing symptomatic episodes for a couple months but failed to report them. There was no history of sudden cardiac death or cardiovascular disease in his family however his personal history consisted of headaches, asthma and multiple concussions that occurred during sport participation. The patient stated that the palpitations would last as long as 20 minutes but would resolve without intervention. The patient was not experiencing palpitations at the time he reported his complaint, but stated that he decided to do so due to concern for his health and fear of a serious condition. He was completely asymptomatic at the time of his complaint with nothing remarkable to report upon assessment. However, given the description of his complaint, the patient was referred to his pediatrician who then referred him to a cardiologist. The cardiologist fitted the patient with a cardiac Holter monitor and instructed him to record any palpitation episodes over the next 48 hours. During this time the monitor registered a heart rate as low as 49 beats per minute and a maximum heart rate of 302 beats per minute. At the time when the greatest heart rate was recorded, the patient reported that he was experienced palpitation like symptoms and dyspnea while resting on a sofa. **Differential Diagnosis**: Atrial fibrillation, supraventricular tachycardia (SVT), atrioventricular nodal reentrant tachycardia (AVNRT), atrioventricular reciprocating tachycardia (AVRT), Wolff-Parkinson-White syndrome (WPWS). **Treatment**: The patient was originally diagnosed with SVT and prescribed Atenolol, a beta-blocker. The source of the tachycardia could not be determined from the electrocardiogram so a radiofrequency ablation procedure was performed to both diagnose and correct the condition. During the procedure, the patient was diagnosed with WPWS and AVRT. The procedure was successful for correcting the abnormal pathway between the left ventricle and left atrium. After ablation, the patient was kept overnight for observation and was released the next day. He was prescribed Aspirin at discharge and instructed to ingest 81-mg daily for one month. Three days following surgery, the patient was cleared for conditioning activities which he resumed without complication. Approximately eight months following surgery the patient experiences a palpitation like episode although not as severe as the previous episodes. The cardiologist diagnosed him with premature ventricular contractions (PVCs). He remained cleared for full participation and continues to be monitored closely by the athletic training staff. **Uniqueness**: WPWS is present in less than 1% of the general population and generally causes heart rates approaching 240 beats per minute. A heart rate over 300 beats per minute as recorded in our patient is extremely rare and can lead to sudden cardiac death. Our patient was at rest during this episode and also experienced dyspnea. **Conclusions**: Our patient failed to report his symptoms for two months. It is extremely important that athletic trainers educate their athletes as to the importance of being forthcoming regarding any changes in their health status. Many clinicians feel that electrocardiography should be included in a preparticipation cardiac screen for young athletes. We are unsure if this would have identified our patient’s condition. **Relevant Evidence**: Medications such as b-blockers, calcium channel blockers, and antiarrhythmic drugs are the most common first-line treatment option for AVRT. However, high-risk accessory pathway conduction like the one our patient was suffering from usually requires catheter ablation. The long-term success rate for catheter ablation of accessory pathways is well above 90%. **Word Count**: 582.