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S1 s2 s3 pattern causes

As a leading medical library, we provide access to comprehensive scientific literature. It's essential to note that inclusion in our databases does not imply endorsement or agreement with the contents by us or the National Institutes of Health. Now, let's dive into an electrocardiogram pattern known as S1S2S3. This specific pattern, along with right-dominant forces on a 12-lead electrocardiogram, is highly indicative of right ventricular dysfunction accompanied by pulmonary hypertension. The key features include a tall R-wave in lead V1, deep S waves in leads V5 and V6, a QRS interval under 120 milliseconds, and right atrial enlargement with a P-wave height over 2.5 millimeters in lead II. In a case study, a 66-year-old African American woman with sarcoidosis and hypertension presented with worsening exertional dyspnea and fatigue over the past month. The electrocardiogram diagnosis most closely represented is pulmonary heart disease. This pattern has been associated with ventricular septal defect since its initial description in 1960 and later with chronic obstructive pulmonary disease. The general criteria for this pattern include a predominant S-wave deflection in leads I to III, usually accompanied by right-axis deviation. RV hypertrophy with pulmonary hypertension produces a tall R-wave in lead V1, deep S waves in the left precordial leads V5 and V6, a QRS interval under 120 milliseconds, and right atrial enlargement. To differentiate this pattern from other conditions like coronary disease or apical hypertrophic cardiomyopathy, we can look for characteristic features such as T-wave inversion in the anterior and inferior leads. Arrhythmogenic RV cardiomyopathy can manifest with ε waves, QRS fragmentation, and right precordial lead QRS prolongation. Studies have shown that electrocardiograms can be a powerful diagnostic tool for patients suspected of having pulmonary pathology, even if they have a sensitivity of less than 50% and specificity of over 95%. The article discusses the diagnosis of right ventricular hypertrophy (RVH), which can be detected through electrocardiography (ECG). The criteria for diagnosing RVH include: * Right axis deviation of +90 degrees or more * R wave in V1 is 7 mm or more in height and has a ratio greater than 1 with S5 or S6 * Late intrinsicoid deflection in V1 * Incomplete right bundle branch block pattern * ST T strain pattern in leads 2,3,aVF * P pulmonale (P wave in lead II > 2.5 mm) * S1 S2 S3 pattern in children Additionally, the article mentions that in certain cases, such as in children, an S1 S2 S3 pattern is a reliable index of RVH. It also notes that there are no universally accepted criteria for diagnosing RVH in the presence of right bundle branch block (RBBB), and that other factors such as RV strain pattern or P pulmonale must be considered. The article provides examples of ECG findings characteristic of RVH, including right axis deviation, dominant R wave in V1, and ST T strain pattern. The article concludes by highlighting the importance of considering multiple criteria for diagnosing RVH, and notes that some ECG leads may be more useful than others in detecting RVH. Left ventricular hypertrophy (LVH) is a condition that affects patients with arrhythmogenic right ventricular cardiomyopathy (ARVC). Characteristic features include a left axis deviation. The R/S ratio in leads V1 is greater than 1, indicating abnormal electrical activity. A strain pattern on the right ventricle, characterized by T-wave inversion and ST depression in the precordial (V1-3) and inferior (II, III, aVF) leads, is also present.