

ABSTRAK

Latar Belakang: *Atrioventricular septal defect (AVSD)* merupakan salah satu kelainan jantung bawaan yang terjadi akibat gangguan perkembangan bantalan endokardial, sehingga menyebabkan defek pada septum atrium dan ventrikel serta kelainan katup atrioventrikular. AVSD sering berasosiasi dengan sindrom Down dan dapat menimbulkan gangguan hemodinamik yang signifikan apabila tidak terdeteksi dan ditangani secara dini. Elektrokardiografi (EKG) merupakan metode diagnostik non-invasif yang penting untuk menilai aktivitas listrik jantung serta mendeteksi kelainan struktural pada anak dengan AVSD.

Metode: Penelitian observasional analitik *cross-sectional* pada 35 anak usia 2 bulan-18 tahun dengan AVSD terdiagnosis ekokardiografi di RSUP Dr. Sardjito (2021-2025), tanpa riwayat operasi jantung. Data dari rekam medis dianalisis deskriptif (median/IQR untuk kontinu, frekuensi untuk kategorikal) dengan uji Kruskal-Wallis dan Fisher exact. Parameter EKG meliputi aksis, irama, hipertrofi, interval PR, QRS, dll.

Hasil: Dominan *Right Axis Deviation (RAD)* 45,7%, *Right Ventricular Hypertrophy (RVH)* 60%, irama sinus 88,6%, *Left Axis Deviation (LAD)* 28,6%. Median *heart rate* 150 bpm, PR interval 121 ms, *QRS duration* 80 ms. Tidak ada perbedaan signifikan antar jenis AVSD (*complete* 17,1%, *partial* 20%, *intermediate* 62,9%; $p > 0,05$ semua parameter), meski deskriptif *complete* cenderung RAD dominan.

Kesimpulan: Karakteristik EKG khas AVSD pada anak mencakup RAD dan RVH, tanpa pengaruh signifikan jenis AVSD. Temuan mendukung diagnosis dini dan pemantauan, dengan saran studi lanjutan sampel lebih besar dan longitudinal.

Kata Kunci: Defek Septum Atrioventrikular, Elektrokardiografi, Anak-anak, Deviasi Aksis, Hipertrofi Ventrikel.

ABSTRACT

Background: Atrioventricular septal defect (AVSD) is a congenital heart disease resulting from abnormal development of the endocardial cushions, leading to defects of the atrial and ventricular septa and atrioventricular valves. AVSD is frequently associated with Down syndrome and may cause significant hemodynamic disturbances if not detected early. Electrocardiography (ECG) is a simple, non-invasive diagnostic tool that provides important information regarding cardiac electrical activity and structural abnormalities in children with AVSD.

Methods: This cross-sectional analytic observational study included 35 children aged 2 months-18 years with echocardiography-confirmed AVSD at RSUP Dr. Sardjito (2021-2025), excluding those with prior heart surgery. Data from medical records underwent descriptive analysis (median/IQR for continuous variables, frequency for categorical) using Kruskal-Wallis and Fisher exact tests. ECG parameters covered axis, rhythm, hypertrophy, PR interval, QRS, and more.

Results: Dominant findings Right Axis Deviation (RAD) 45.7%, Right Ventricular Hypertrophy (RVH) 60%, sinus rhythm 88.6%, Left Axis Deviation (LAD) 28.6%. Median heart rate 150 bpm, PR interval 121 ms, QRS duration 80 ms. No significant differences across AVSD types (complete 17.1%, partial 20%, intermediate 62.9%; $p>0.05$ for all parameters), though complete AVSD descriptively showed predominant RAD.

Conclusion: Typical ECG features in children with AVSD include RAD and RVH, unaffected significantly by AVSD type. Findings aid early diagnosis and monitoring, with recommendations for larger longitudinal studies.

Keywords: Atrioventricular Septal Defect, Electrocardiography, Children, Axis Deviation, Ventricular Hypertrophy.