

## **NILAI DIAGNOSTIK KRITERIA HIPERTROFI VENTRIKEL KIRI BERDASARKAN ELEKTROKARDIOGRAM DALAM MENDETEKSI HIPERTROFI EKSENTRIK VENTRIKEL KIRI PADA PASIEN GAGAL JANTUNG DI RSUP DR. SARDJITO, YOGYAKARTA**

T. Amirul Muttaqin<sup>1</sup>, Hasanah Mumpuni<sup>2</sup>, Hendry Purnasidha Bagaswoto<sup>2</sup>  
<sup>1</sup>Program Studi Pendidikan Dokter, <sup>2</sup>Departemen Kardiologi dan Kedokteran Vaskular  
Fakultas Kedokteran Gadjah Mada-RSUP Dr. Sardjito, Yogyakarta, Indonesia

### **Latar Belakang:**

Gagal jantung adalah salah satu masalah kesehatan utama di Indonesia. Hipertrofi ventrikel kiri adalah salah satu bagian dari mekanisme respon terhadap gangguan hemodinamik yang dapat mengarah ke kejadian gagal jantung. Kriteria hipertrofi ventrikel kiri berdasarkan elektrokardiogram adalah salah satu penilaian kondisi jantung yang mudah dan sederhana. Ekokardiogram merupakan baku emas pemeriksaan hipertrofi ventrikel kiri. Penelitian mengenai nilai diagnostik kriteria hipertrofi ventrikel kiri terhadap ekokardiogram belum banyak dilakukan di Indonesia.

### **Tujuan:**

Penelitian ini bertujuan untuk mengetahui nilai sensitivitas, spesifisitas, nilai ramal positif, nilai ramal negatif, rasio kemungkinan positif, rasio kemungkinan negatif, dan akurasi kriteria hipertrofi ventrikel kiri dalam mendeteksi hipertrofi eksentrik ventrikel kiri.

### **Metode:**

Penelitian potong lintang terhadap 61 pasien gagal jantung rawat inap dan jalan di RSUP Dr. Sardjito. Dilakukan pengambilan data anamnesis, berat badan, tinggi badan, indeks massa tubuh, denyut jantung, tekanan sistolik, tekanan diastolik dan pemeriksaan elektrokardiogram serta ekokardiogram.

### **Hasil:**

Dari 61 pasien, didapatkan 40 subyek laki-laki dan 21 subyek perempuan. Dari pemeriksaan ekokardiogram didapatkan 21 pasien positif hipertrofi eksentrik (34%). Kriteria Sokolow-Lyon memiliki nilai sensitivitas 19,04% dan spesifisitas 87,50%. Kriteria Cornell memiliki nilai sensitivitas 61,90% dan spesifisitas 72,50%.

### **Kesimpulan:**

Sensitivitas kriteria Cornell jauh lebih baik daripada kriteria Sokolow-Lyon, sementara nilai spesifisitas tidak terlalu berbeda. Kriteria hipertrofi ventrikel kiri elektrokardiogram tidak bisa menggantikan peran diagnosis ekokardiogram sebagai baku emas.

### **Kata Kunci:**

Hipertrofi ventrikel kiri, kriteria Sokolow-Lyon, kriteria Cornell, gagal jantung

**DIAGNOSTIC VALUE OF LEFT VENTRICULAR HYPERTROPHY CRITERIAS  
BASED ON ELECTROCARDIOGRAM IN DETECTING LEFT VENTRICULAR  
ECCENTRIC HYPERTROPHY IN HEART FAILURE PATIENTS IN RSUP DR.  
SARDJITO, YOGYAKARTA**

T. Amirul Muttaqin<sup>1</sup>, Hasanah Mumpuni<sup>2</sup>, Hendry Purnasidha Bagaswoto<sup>2</sup>

<sup>1</sup>Undergraduate Program, Faculty of Medicine, University of Gadjah Mada,  
Yogyakarta, Indonesia

<sup>2</sup>Department of Cardiology and Vasculare, Faculty of Medicine, University of Gadjah Mada,  
RSUP Dr. Sardjito, Yogyakarta, Indonesia

**Background:**

Heart failure is one of primary health problems in Indonesia. Left ventricular hypertrophy is a part of respon mechanisms to hemodynamic disturbance which can lead to the incidence of heart failure. Left ventricular hypertrophy criteria based on electrocardiogram is one of easiest and simplest assesments of the heart condition. Echocardiogram is a gold standard for diagnosing left ventricular hypertrophy. Studies on diagnostic value of left ventricular hypertrophy criteria against echocardiogram has not been done in Indonesia.

**Aim:**

This research is aimed to know sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio, negative likelihood ratio, and accuracy of left ventricular hypertrophy criteria in detecting left ventricular eccentric hypertrophy.

**Method:**

Cross-sectional study of 61 patients of heart failure in outpatient and inpatient ward of RSUP Dr. Sardjito. Anamnesis data was taken, as well as body weight, body height, body mass indes, heart beat, systolic pressure, diastolic pressure, and electrocardiogram and echocardiogram examination.

**Results:**

40 male subjects and 21 female subjects were found out of 61 patients. 21 pastients were found positive of eccentric hypertrophy (34%). Sokolow-Lyon criteria has sensitivity 19,04% and specificity 87,50%. Cornell criteria has sensitivity 61,90% and specificity 72,50%.

**Conclusion:**

Sensitivity of Cornell criteria was found better than Sokolow-Lyon criteria, as for specificity was not so different. Left ventricular hypertrophy criteria based on electrocardiogram can not replace the role of echocardiogram as the gold standard.

**Keywords:**

Left ventricular hypertrophy, Sokolow-Lyon criteria, Cornell criteria, heart failure