ORİJİNAL GÖRÜNTÜ ORIGINAL IMAGE

DOI: 10.5336/cardiosci.2016-52631

Hypertrophic Cardiomyopathy Case with Persistent ST Segment Elevation Mimicking (Falsely Suggesting) Acute Anterior Myocardial Infarction: Orjinal Image

Akut Anterior Miyokard İnfarktüsünü Taklit Eden, Kalıcı ST Yükselmeli Hipertrofik Kardiyomiyopati Vakası

Nizamettin Selçuk YELGEÇ,[a]
Ceyhan TÜRKKAN,[a]
Ahmet Taha ALPER[a]

[a]Clinic of Cardiology,
Dr Siyami Hersek Training and
Research Hospital,
İstanbul

Geliş Tarihi/*Received:* 02.07.2016
Kabul Tarihi/*Accepted:* 28.11.2016

Yazışma Adresi/*Correspondence:*
Nizamettin Selçuk YELGEÇ
Dr Siyami Hersek Training and
Research Hospital,
Clinic of Cardiology, İstanbul,
TURKEY/TÜRKİYE
yelgec@gmail.com

Keywords: *Cardiomyopathy, hypertrophic; electrocardiography; anterior wall myocardial infarction*

Anahtar Kelimeler: *Kardiyomiyopati, hipertrofik; elektrokardiyografi; anterior duvar miyokard infarktüsü*

A 42-year-old male patient presented to the emergency clinic with atypical chest pain and dyspnoea. Initial electrocardiographic (ECG) analysis revealed left ventricular hypertrophy diagnosed by Sokolov-Lyon criteria and concordant ST elevation with long R wave in DI, AvL aVL and anterior leads (V2-V5), suggesting acute antero-lateral myocardial infarction (MI). T wave was biphasic in leads V5 and V6. There were some suspicious reciprocal ST changes in DIII and AvF aVL (Figure 1). ST segment elevation was minimally convex upwards, but mostly with obliquely straight morphology. Echocardiographic examination showed asymmetric septal hypertrophy (Figure 2) but there was no wall motion abnormality. Troponin levels stayed in the normal range. Subsequent coronary angiogram showed normal coronary arteries. Several ECGs obtained in the following days were unchanged. Finally, his old ECGs were found; the patient's previous ECGs revealed the presence of persistent ST segment elevation for many years. Since ECG changes are observed in more than 90% of patients, ECG testing remains the most sensitive routinely performed diagnostic test for hypertrophic cardiomyopathy, although its specificity is low and none of the findings are typical or characteristic of the disease.[1-2] Generally, the ECG is abnormal with localised or widespread repolarisation changes. Most commonly observed patterns are high voltage tall R waves in anterolateral leads (V4, Vs, V6, I, and aVL) consistent with left ventricular hypertrophy, ST-T changes, marked T wave inversion in lateral precordial leads, left atrial enlargement, deep and narrow Q waves, and diminished R waves in lateral leads. Normal ECG is present in only 5% of patients.[3-5] ST elevation concordant with long R wave suggesting acute anterior ST elevation MI as an ECG manifestation is rarely described in hypertrophic cardiomyopathy.[6-9] An absence of simultaneous ST segment depression in reciprocal leads is a very important clue for differentiation from ST elevation of acute myocardial infarction. For other less clear asymptomatic patients, echocardiography is an invaluable useful tool to observe cardiac function wall

motion abnormality and cardiac structure. In conclusion, hypertrophic cardiomyopathy should be kept in mind in the differential diagnosis of ST elevation, particularly in asymptomatic patients.

Conflict of Interest

Authors declared no conflict of interest or financial support.

Authorship Contribution

All the authors contributed to the article.

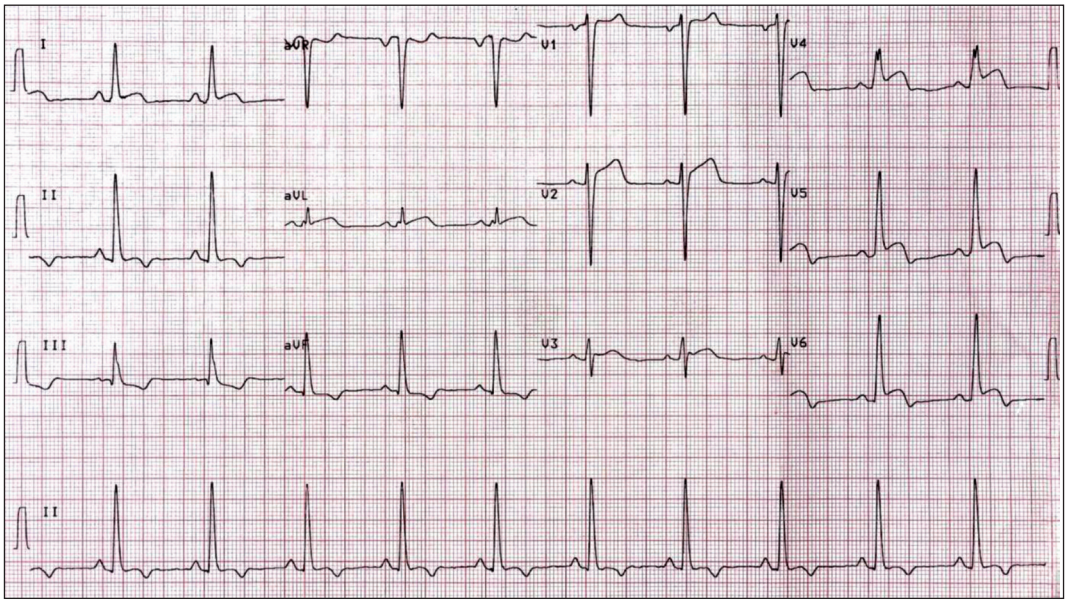

FIGURE 1: Admitting Admission ECG shows left ventricular hypertrophy and concordant ST elevation with long R wave in DI, AvL aVL and anterior leads (V2-V5) suggesting acute antero-lateral MI. There was minute reciprocal ST changes in DIII and AvF aVF.

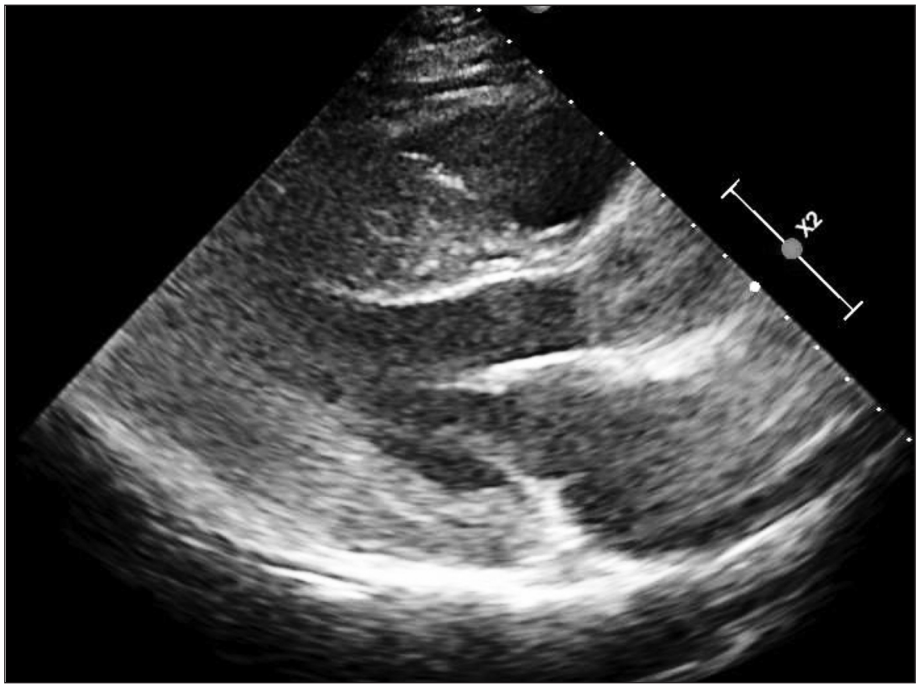

FIGURE 2: Parasternal long axis 2D echocardiogram shows asymmetric septal hypertrophy of the interventricular septum

REFERENCES

1. Maron BJ, McKenna WJ, Danielson, GK, Kappenberger LJ, Kuhn, HJ, Seidman CE, et al; Task Force on Clinical Expert Consensus-Documents. American College of Cardiology; Committee for Practice Guidelines. European Society of Cardiology. American College of Cardiology/European Society of Cardiology clinical expert consensus document on hypertrophic cardiomyopathy: a report of the American College of Cardiology foundation task force on clinical expert consensus documents and the European Society of Cardiology Committee for Practice Guidelines. J Am Coll Cardiol 2003;42(9):1687-713.
2. Maron BJ, Towbin JA, Thiene G, Antzelevitch C, Corrado D, Arnett D, et al; American Heart Association; Council on ClinicalCardiology, Heart Failure and Transplantation Committee; Quality of Care and Outcomes Research and Functional Genomics and Translational BiologyInterdisciplinary Working Groups; Council on Epidemiology and Prevention. Contemporary definitions and classification of the cardiomyopathies an American heart association scientific statement from the council on clinical cardiology, heart failure and transplantation committee; quality of care and outcomes research and functional genomics and translational biology interdisciplinary working groups; and council on epidemiology and prevention. Circulation 2006;113(14):1807-16.
3. Maron BJ. The electrocardiogram as a diagnostic tool for hypertrophic cardiomyopathy: revisited. Ann Noninvasive Electrocardiol 2001;6(4):277-9.
4. Montgomery JV, Harris KM, Casey SA, Zenovich AG, Maron BJ. Relation of electrocardiographic patterns to phenotypic expression and clinical outcome in hypertrophic cardiomyopathy. Am J Cardiol 2005;96(2):270-5.
5. Mann DL, Zipes DP, Libby P, Bonow RO. Braunwald's Heart Disease: a Textbook of Cardiovascular Medicine. 10th ed. Philadelphia, PA: Elsevier/Saunders; 2015. p.1580.
6. Luzza F, Carerj S, Oreto G. Hypertrophic cardiomyopathy with persistent ST segment elevation simulating acute myocardial infarction. Heart 2004;90(4):380.
7. Khan IA, Ajatta FO, Ansari AW. Persistent ST segment elevation: a new ECG finding in hypertrophic cardiomyopathy. Am J Emerg Med 1999;17(3):296-9.
8. Daralammouri Y, El Garhy M, Same K, Lauer B. Hypertrophic cardiomyopathy mimicking acute anterior myocardial infarction associated with sudden cardiac death. Case Rep Med 2012;2012:236154.
9. Prescott R, Quinn JS, Litmann D. Electrocardiographic changes in hypertrophic subaortic stenosis which simulate myocardial infarction. Am Heart J 1963;66.42-8.