SAS Journal of Medicine
Abbreviated Key Title: SAS J Med
ISSN 2454-5112
Journal homepage: https://saspublishers.com

OPEN ACCESS

Medicine

Case Report: Late Presentation of Hypertrophic Cardiomyopathy in a 65- Year- Old Sudanese Man at Royal Care International Hospital

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DOI: 10.36347/sasjm.2023.v09i08.003 | **Received:** 19.06.2023 | **Accepted:** 24.07.2023 | **Published:** 08.08.2023

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Abstract **Case Report**

Background: HCM Syndrome is a left ventricle hypertrophic in the absence of another cardiac or other systemic condition. An epidemiologic study reported that the prevalence of HCM is 0.02in the general population. ***Case Presentation:*** We report a case report of a 65- year- old man who was referred to the clinic after presenting with a typical symptom. Past medical history and family history were insignificant. Echocardiography showed asymmetrical basal septal hypertrophy with a preserved ejection fraction of 65%. The patient was asymptomatic with no functional limitation but later developed atrial fibrillation with mild diastolic heart failure, which was treated by pharmacological medication and cardio version. ***Conclusion:*** In conclusion, the earlier the diagnosis, better the prognosis. HCM has a lot of complications including atrial fibrillation. Therefore, awareness of how often AF and other arrhythmias are associated with HCM patients will lead to lower mortality as a follow-up ECG and echocardiography can be performed to prevent subsequent complications.

Keywords: Hypertrophic cardiomyopathy, atrial fibrillation, 65, male.

INTRODUCTION

HCM Syndrome is left ventricle hypertrophy in the absence of another cardiac or other systemic condition. An epidemiologic study reported that the prevalence of HCM is 0.02in the general population, with various clinical presentation that make this disease under recognized and under-diagnosed in daily clinic practice [1].

Accounting for familial transmission, subclinical cases, and pathogenic sarcomere mutations, inferring that 750,000 or more Americans may be affected by HCM. However, only about 100.000 patients are identified clinically, suggesting that HCM is under diagnosed and that cardiologist may be exposed to only a small proportion within the disease spectrum (Tip of the iceberg phenomenon) [2].

Moreover, atrial fibrillation is common in HCM patients, with a prevalence of about 22%-32%. Thus, early recognition is essential as it can help identify HCM symptoms and complications. Therefore, it's one of the risk factors that has an impact on overall survival [3].

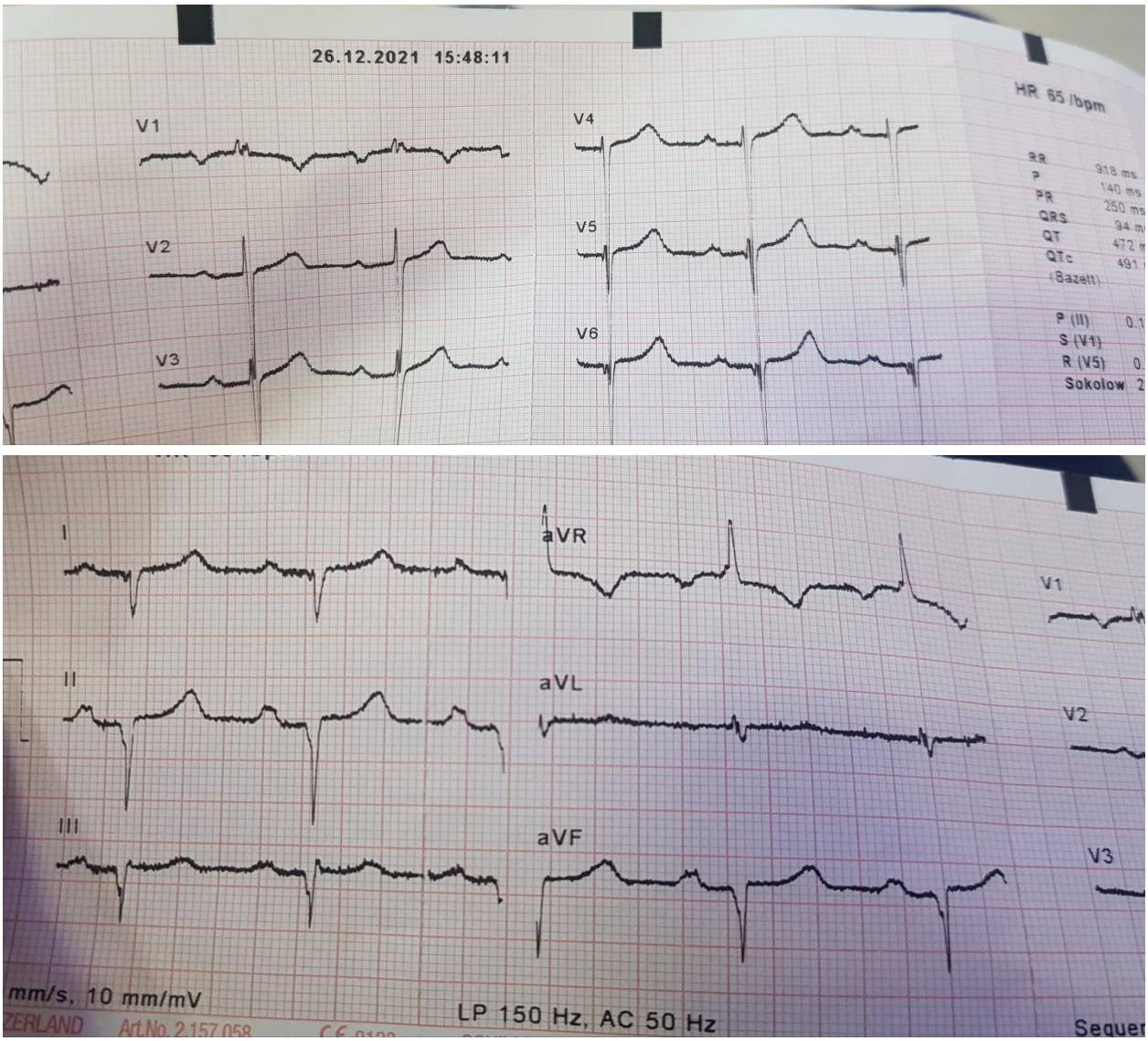
HCM symptoms are described as lightheadedness, presyncope, syncope and sudden death. In addition to exercise induced dyspnea, it can be caused by a non-compliant left ventricle with low end diastolic volume that limits cardiac output. Increased awareness of HOCM will further help improve the quality of life for many patients and increase the likelihood of diagnosis [4].

CASE PRESENTATION

A 65 –year-old male with a clear medical background apart from peptic ulcer and benign prostatic hyperplasia was referred to the clinic for regular follow-up after presenting with lightheadedness and dizziness two days ago with no palpitation or chest pain. Past medical history and family history were insignificant. The physical examination was unremarkable. Cardiac examination yielded normal S1 and S2 with an audible ejection systolic murmur at the right second intercostal area. General investigations were normal. The Chest-x-ray was clear. ECG showed abnormal ST segments, deep Q waves, and apical waves in addition to 1st-degree heart block. Echocardiography revealed Asymmetrical left ventricular hypertrophy affecting the anterior septum, partial LV outflow tract obstruction

with normal biventricular systolic functions, and an estimated ejection fraction of more than 65%. For additional evaluation, Doubt amine Stress Test was ordered, which showed a peak systolic gradient of 86 mmHg and MRI cardiography confirmed the diagnosis of HCM. Genetic testing wasn't done due to its unavailability in the country, but the patient's family was advised regarding regular follow-up.

Regarding the treatment plan, the patient was advised to start on Nevibololand returned after two weeks with severe hypotension as Nebviolol works on NO receptors despite its selectivity. Medication changed to Metoprolol; one month later on follow-up, the patient developed Fast AF and was admitted for observational 48 -hour along with starting Sotalol 40 mg twice a day was an option in place of Metoprolol. Additionally, Revarxibane 20 mg was added. The patient returned after three weeks; rhythm was still irregular with a normal QTC interval, and he was still symptomatic. Cardio version was done and he got discharged in a good condition with a regular rhythm. One year later, AF returned, subsequently cardio version was done again, along with increasing the Sotalol dosage to 80 mg twice a day. Moreover the patient was advised regarding regular follow-up, not to do heavy exercise and to eat balanced diet in potassium.



DISCUSSION

Hypertrophic cardiomyopathy is the most common genetic heart disease in the US, with an estimated prevalence of 1 in 500; nevertheless, it's unclear to which extent HCM is clinically recognized [5].

A recent study showed that the prevalence of HCM generally increased with age 55-64 and more in males, as it was in conformity with our case report (PubMed National Library) thus indicating that additional screening tests should be conducted for this target group in order to avoid the under diagnosis [6].

A clinical case report that goes along with our case showed that the majority of HCM patients are asymptomatic and have a normal life expectancy, but the symptoms of chronic heart failure are frequent. As there's a lifelong process of progressive cardiac remodeling, characterized by myocardial fibrosis and wall thinning, this can precipitate arrhythmias, acute mitral regurgitation and acute coronary syndrome [7].

Another review, in contradiction to our case study, stated that Apical HCM, which predominantly affects the apex of the left ventricle, usually escapes clinical diagnosis and echocardiographic investigation, unlike classical HCM. This implies that HCM is a challenging diagnosis due to several factors, including atypical symptoms, the timing of the presentation, and different forms like APHCM to execute and interpret with an echocardiographic investigation [8].

Furthermore, AF is frequently associated with HCM, reported prevalence of about 20%-25%; likewise, in our case, it reemerged twice following the diagnosis. AF has a negative impact on HCM patients prognosis because it may lead to an increased incidence of heart failure or stroke if not well managed. This highlight the importance of regular follow-up and awareness of symptoms. Therefore, awareness of how often AF and other arrhythmias associated with HCM patients will lead to lower mortality as a follow-up ECG and echocardiography can be performed to prevent this subsequent complication [9].

However, a similar study reported that, the HCM treatment plan is to start with non-invasive methods such as beta blockers, Ca channel blockers. Additionally, invasive methods such as trans-catheter alcohol septal ablation (SBRT), percutaneous radio frequency ablation or heart transplantation. The HCM approach plan is multidisciplinary and recommended according to the patient's condition and severity of the disease [10].

Moreover, a recent series of HCM mortality rates and described a 0.7% year and a 1.1% per year from causes unrelated to HCM. Respectively, according to our case study, the general prognosis of HCM patients is generally good and commonly regarded as benign. Thus, two thirds of patients exhibit a normal life span without significant morbidity [7].

CONCLUSION

- HCM syndrome is a common genetic disease; genetic screening tests and echocardiography can aid in the diagnosis, and the earlier management, the better the outcomes.
- Awareness of how often AF and other arrhythmias are associated with HCM patients will lead to lower mortality as a follow-up ECG and echocardiography can be performed to prevent subsequent complications.

Ethics Statement

Written informed consent was obtained from the individual for the publication of any identifiable data.

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