JOURNAL OF CLINICAL AND HEALTH SCIENCES

IMAGE QUIZ

# JCHS-IQ-02-2022
# High Risk of Sudden Cardiac Death Managed by Cardiac Implantable Electronic Device

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## ANSWER TO JCHS-IQ-02-2022

Answer: C

### Discussion

The chest X-ray reveals implantable cardioverter-defibrillator (ICD)-pacemaker combination with two leads projected at the right atrium and ventricle. A pulse generator placed subcutaneously in the left infraclavicular area. There are shock coils seen as thickened radio-opaque structures on the lead. Automatic implantable cardioverter defibrillators function as patient monitoring and therapy in the event of life-threatening ventricular tachyarrhythmias.

Her Cardiac MRI reported increased left ventricular wall thickness (IVSDd 18mm, LPWDd 10mm, basal septal 22mm, mid septal 17mm, basal inferior 14mm, mid inferior 19mm, apical inferior 11mm, basal anterior 10mm and basal lateral 7mm). The maximum left ventricular thickness is required as one of the parameters in clinical risk prediction for sudden cardiac death. There was no systolic anterior motion of the mitral valve seen. She was diagnosed with Hypertrophic cardiomyopathy (HCM) with high sudden cardiac death risk score of 7.36% [1]. The indication of ICD in this case is for primary prevention from sudden cardiac death due to ventricular tachyarrhythmia [2, 3].

HCM is characterized by left ventricular hypertrophy of various morphologies. The presentation varies from asymptomatic, heart failure, chest pain or arrythmias to sudden death in the young depending on the site and extent of cardiac hypertrophy. The cardiac hypertrophy is caused by mutations in one of several sarcomere genes which encode components of the contractile apparatus.

### Learning Points

- The indication and evidence base for cardiac implantable electronic devices continues to expand providing a better clinical outcome.
- ICDs comprises of a single lead with one or two shock coils which are radiopaque on chest x-ray.

### Conflict of Interest

Authors declare none.





Vol 7(2) (2022) 58-59 | jchs-medicine.uitm.edu.my | eISSN 0127-984X
https://doi.org/10.24191/jchs.v7i2.12917

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**Received**
25th March 2021
**Received in revised form**
7th June 2021
**Accepted**
7th June 2021