

Extensive myocardial fibrosis in a hypertensive patient presenting with non-sustained ventricular tachycardia : an additional finding from cardiac MRI.

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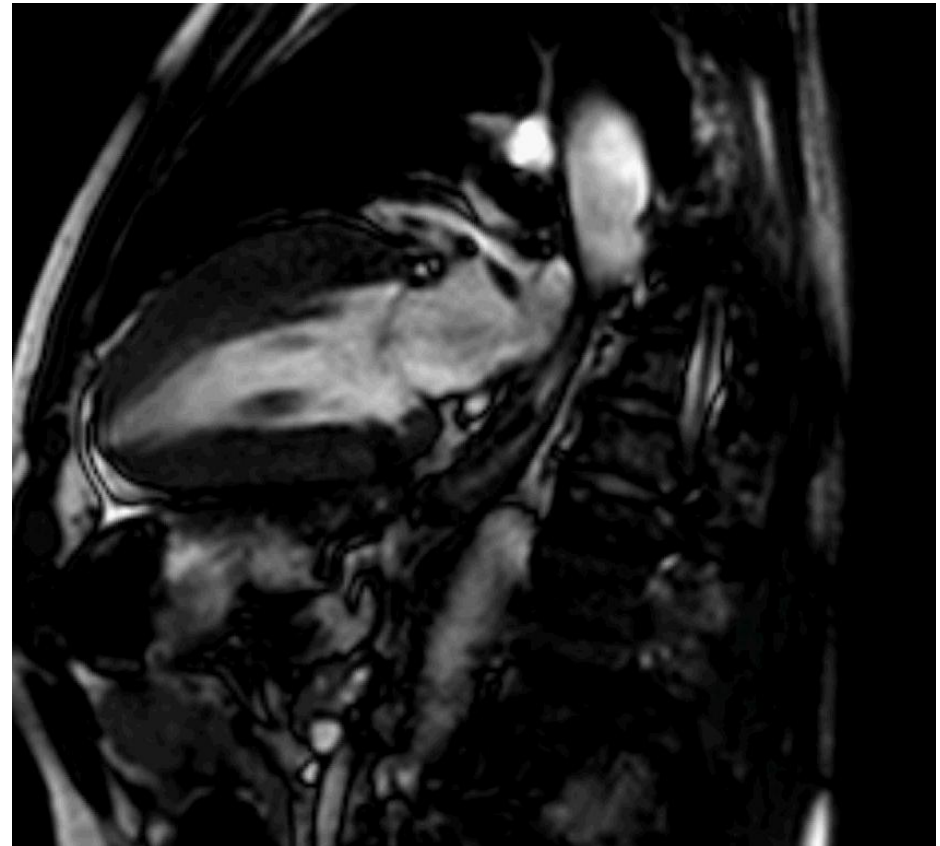
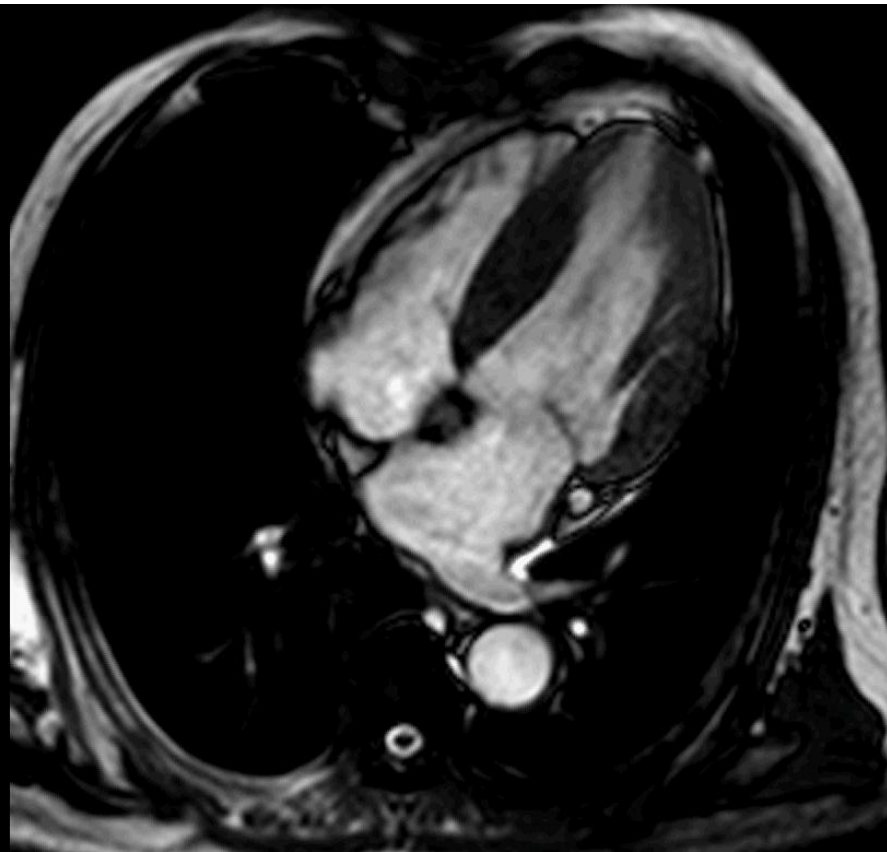
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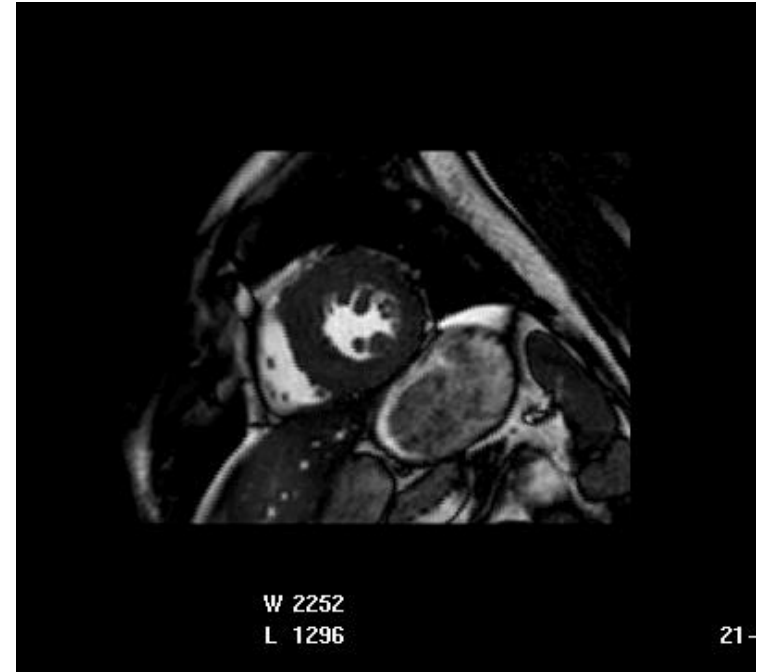
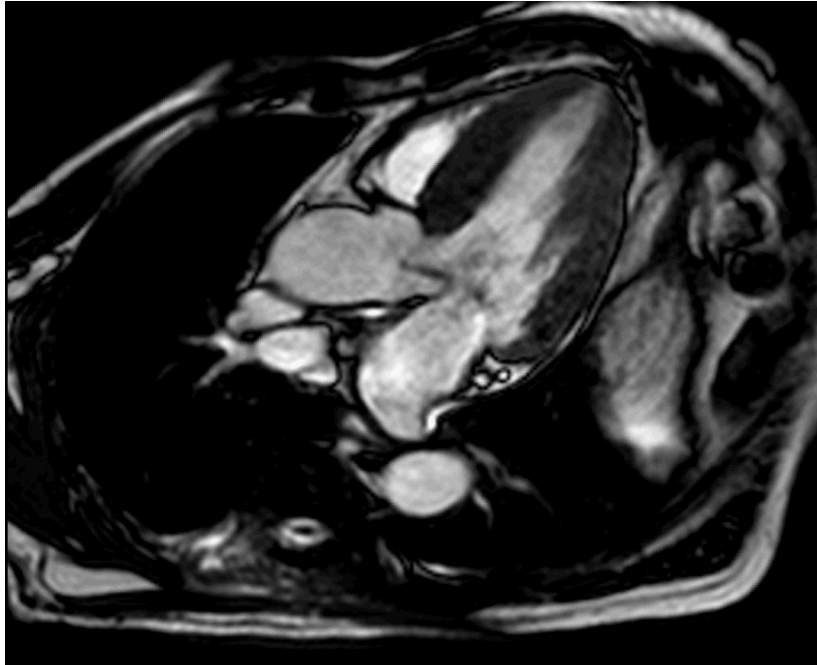
- A 70 year old man presented in our cardio clinic because of many episodes of palpitation without syncope symptom during the last 2 months. He denies chest pain or dyspnea. The patient has taken anti-hypertensive medication regularly for more than 10 years and his blood pressure remains in mild hypertension.
- Physical examination revealed no remarkable findings. Electrocardiogram showed sinus rhythm with LVH by voltage criteria, inverted T in lead V2-6, I, aVL and Q-wave in II, III, aVF. Echocardiography demonstrated concentric LVH with good LV systolic function. Neither wall motion abnormalities nor valve lesions were found. 24-hours Holter monitoring revealed many episodes of non-sustained ventricular tachycardia (RBBB pattern).
- The patient was scheduled for coronary catheterization but no coronary artery stenosis was detected.
- Because of the RBBB pattern of ventricular tachycardia, the electrophysiology physician decided to send the patient for cardiac MRI study to evaluate left ventricular structure.



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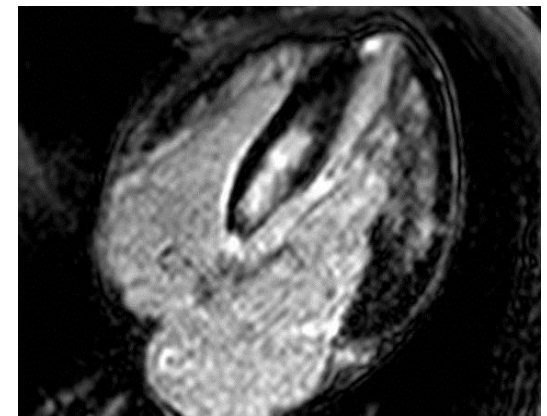
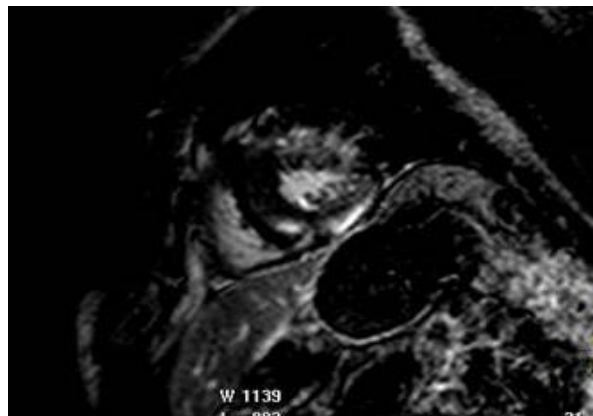
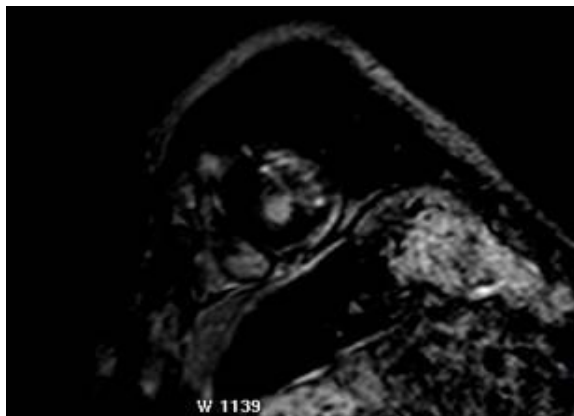
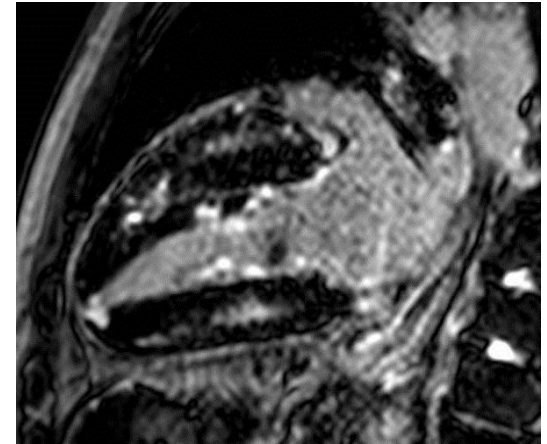
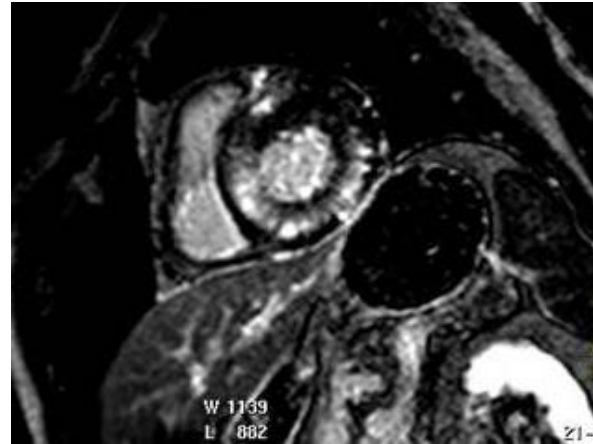
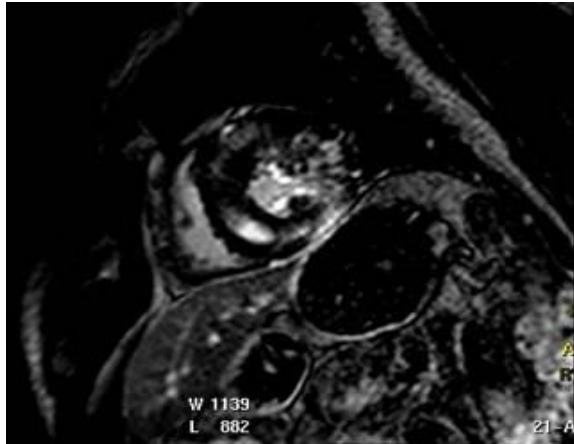


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- Cardiac MRI demonstrated concentric LVH with LV mass index of 117 g/m^2 .
- The left ventricle was not dilated, $\text{LVEDVI} = 60 \text{ ml/m}^2$.
- There was mildly impaired left ventricular systolic function with $\text{LVEF} 51\%$ but no wall motion abnormalities were detected.
- The mitral valve showed mild regurgitation with regurgitation fraction of 13% .
- Other cardiac valves appeared normal.

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Gadoteric acid (Dotarem) 0.2 mmol/kg was given and late gadolinium enhancement sequence was performed 10 minutes later. There was diffuse extensive mid-wall enhancement in every left ventricular segment. Neither pericardial enhancement nor atrial enhancement were

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- Because of the history of arrhythmia in his family (his son received ICD implantation), the genetic diseases were first considered. Anderson-Fabry disease and Hypertrophic cardiomyopathy (HCM) were in differential diagnosis.
- However, the alpha Galactosidase A Enzyme essay was normal
- The next-generation sequencing for known HCM genes was negative.
- The laboratory data was also not suggestive of cardiac amyloid.
- The patient was finally diagnosed hypertensive cardiomyopathy with extensive myocardial fibrosis.
- He was scheduled for ICD implantation.
- Conclusions : Our patient highlights the importance of cardiac MRI for abnormal cardiac structure detection in the patients presenting with arrhythmic problem even the echocardiogram and coronary angiogram are unremarkable.