Inner Spaces
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Points

- Cardiac MRI is the modality of choice for virtually all cardiomyopathies
- It is able to chararactize many of the causes.

Cardiac MRI in Unusual Cardiomyopathies

Cardiac MRI is today the gold standard for the evaluation of cardiomyopathies. In an earlier newsletter this year, we had discussed its role in various common inflammatory and infiltrative cardiomyopathies, including hypertrophic cardiomyopathy and arrhythmogenic right ventricular dysplasia (ARVD).

Cardiac MRI however is also very useful in the evaluation of many other genetic and acquired cardiomyopathies, such as storage disorders (Fig. 1), amyloidosis (Fig. 2) and endomyocardial fibrosis (Fig. 3). The cine files help in assessing wall motion. Delayed contrast-enhanced images show patterns of abnormal myocardial enhancement that often help in further characterizing the type of cardiomyopathy.

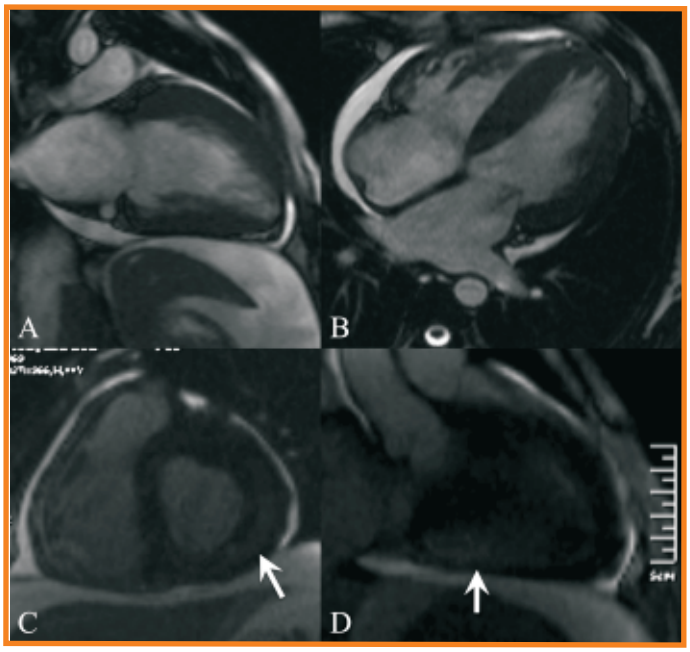

Figure 1 (A-D): Suspected storage disorder. This lady presented with arrhythmias. The cardiac MRI shows thickening of the walls of all the chambers seen in the 2-chamber (A) and 4-chamber (B) views. The delayed contrast-enhanced images in the short axis (C) and 2-chamber (D) views show abnormal mid-myocardial enhancement (arrows) involving mainly the basal and mid infero-lateral segments. This pattern of enhancement has been described in Alexander-Fabry disease and other similar storage disorders of the heart. She then gave a history of similar complaints and early deaths of her father and grandfather, confirming a congenital/genetic etiology. She is being further investigated for the exact etiology of her cardiomyopathy.

Fig. 1

The online version is up at ***http://www.piramaldiagnostics.com/radiology/spaces-newsletter/current-issue.aspx***

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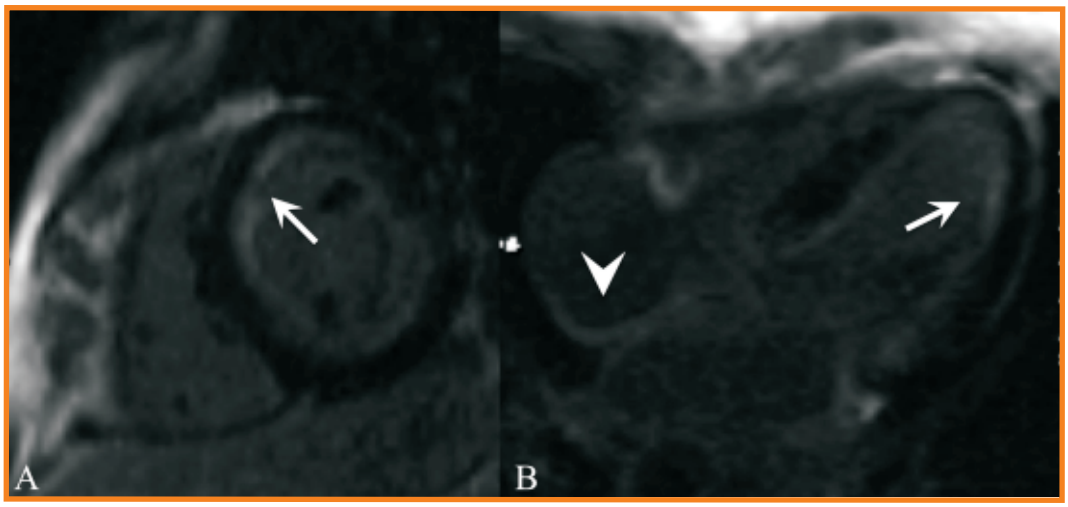

Fig. 2

Figure 2 (A,B): Amyloidosis. This middle-aged man had myeloma and presented with arrhythmias. His cine images showed wall thickening and altered contractility. The delayed contrast-enhanced images in the short axis (A) and 4-chamber (B) views show abnormal, almost symmetric endocardial and subendocardial enhancement of the LV (arrows) and both atria (arrowhead). This appearance is consistent with amyloidosis, which is a cardiomyopathy that may occur in patients with myeloma. The diagnosis however has not been pathologically proved.

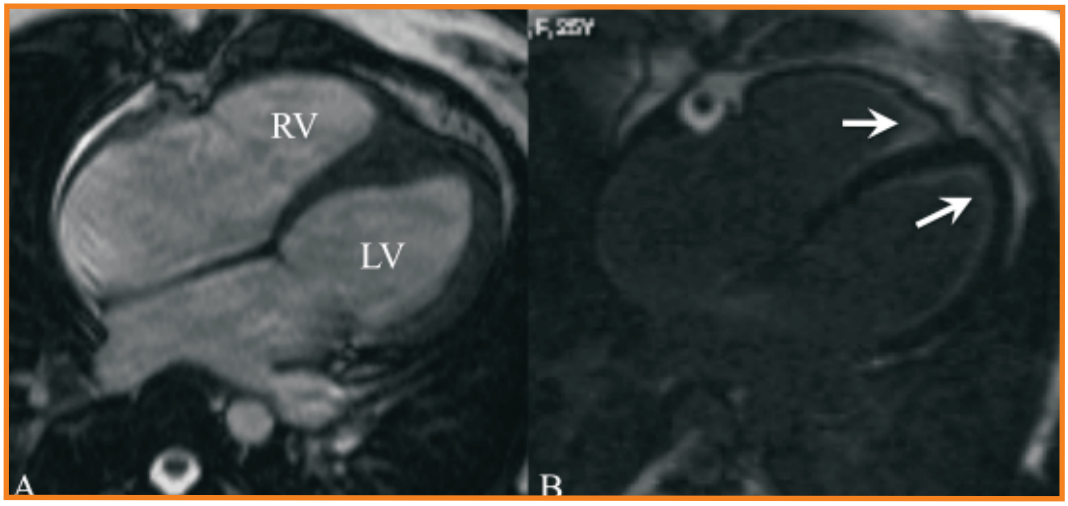

Fig. 3

Fig. 3 (A,B): Endomyocardial fibrosis. This middle-aged man presented with failure and echocardiography showed a restrictive cardiomyopathy with biatrial enlargement. The 4-chamber view (A) shows small ventricles (RV, LV) and large atria. The delayed contrast-enhanced 4-chamber view shows biventricular arrow-shaped subendocardial enhancement that is typical of endomyocardial fibrosis in this clinical setting. This patient expired within a week of the diagnosis.

Happy New Year

Designed by
MKIS

Main Clinic
Bhaveshwar Vihar,
383, Sardar V. P. Road,
Mumbai - 400 004
Tel : 022-6617 3333.
Email :info@jankharia.com

Cardiac & Ultra fast CT scan
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akshay@jankharia.com
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