

Response to Reviewer's Comments

We would like to thank the Reviewer for the encouraging comments and professional suggestions. As a result, we have revised our manuscript accordingly. Please find below our point-by-point responses to the Reviewer's insightful comments.

SPECIFIC COMMENTS TO AUTHORS

Dear author I could perceive a significant improvement in the writing style.

Reply: Thank you for your positive feedback.

I would suggest the authors it would be better to provide a paragraph in the discussion with an figure depicting what possible molecular mechanism causes heart failure in hypothyroidism.

Reply: Thank you for your comment. Hypothyroidism can lead to HF. On the one hand, it reduces contractility due to reduced activity of the Sodium-Potassium ATPase and Ca^{2+} ATP-ase pumps. On the other hand, it increases peripheral resistance by acting on the endothelial cells and smooth muscle cells to cause vasoconstriction. It also determines the increase in serum cholesterol levels, which can lead to ischemic disorders. All of these result lead to systolic-diastolic dysfunction that may favor the onset or progression of heart failure (Marked in the form of "Highlight"). At the same time, we've added a figure about the molecular mechanism causes heart failure in hypothyroidism.

You may remove the table and same information may be included in the result as the information is less but relevant.

Reply: Thank you for your comment. We've removed the table and enriched ultrasound results in "OUTCOME AND FOLLOW-UP". One month later, the patient showed no obvious clinical symptoms, and the heart did not have murmurs or extra heart sounds. Thyroid function had returned to normal. Echocardiogram (Figure 1B) showed the improvement of LVEF from 35% to 44%, the reduction of left atrium from 49.4 mm to 41.4 mm, the reduction of LV from 53.6 mm to 52.0 mm and pericardial effusion had resolved compared with that during admission. At the 6-mo follow-up appointment, he remained

asymptomatic. Physical examination showed no obvious positive signs. A repeat echocardiogram (Figure 1C) revealed a diminishment of the enlarged LV chamber and a continuous increase in LVEF to 54% (Table 1) and the LV continued to shrink to 51.2 mm. (Marked in the form of “Highlight”).

Place the follow up echo side by side and MRI image side by side for easy perception (graphical abstract)

Reply: Thank you for your suggestion. We've reordered the images for easy perception. In the meantime, we offer a new PowerPoint of figures.

Figure Legends



Figure 1 Transthoracic echocardiogram findings from presentation to the last follow-up. A: Apical four-chamber view of the transthoracic echocardiogram in diastole on presentation; B: One-month follow-up echocardiographic imaging; C: Six-month follow-up echocardiographic imaging.



Figure 2. Electrocardiogram findings on presentation.

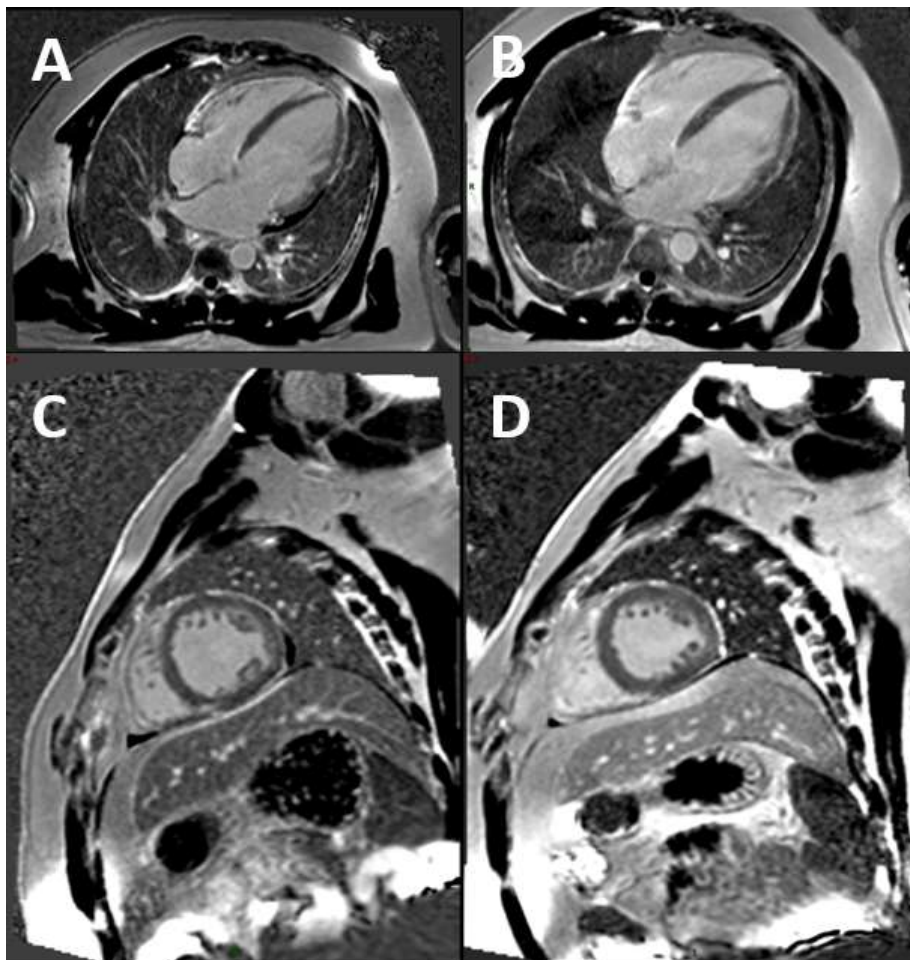


Figure 3 Cardiac magnetic resonance imaging findings from presentation to the last follow-up. A and C: Late gadolinium enhancement of the short-axis and four-chamber heart view on presentation; B and D: Six-month follow-up late gadolinium enhancement.

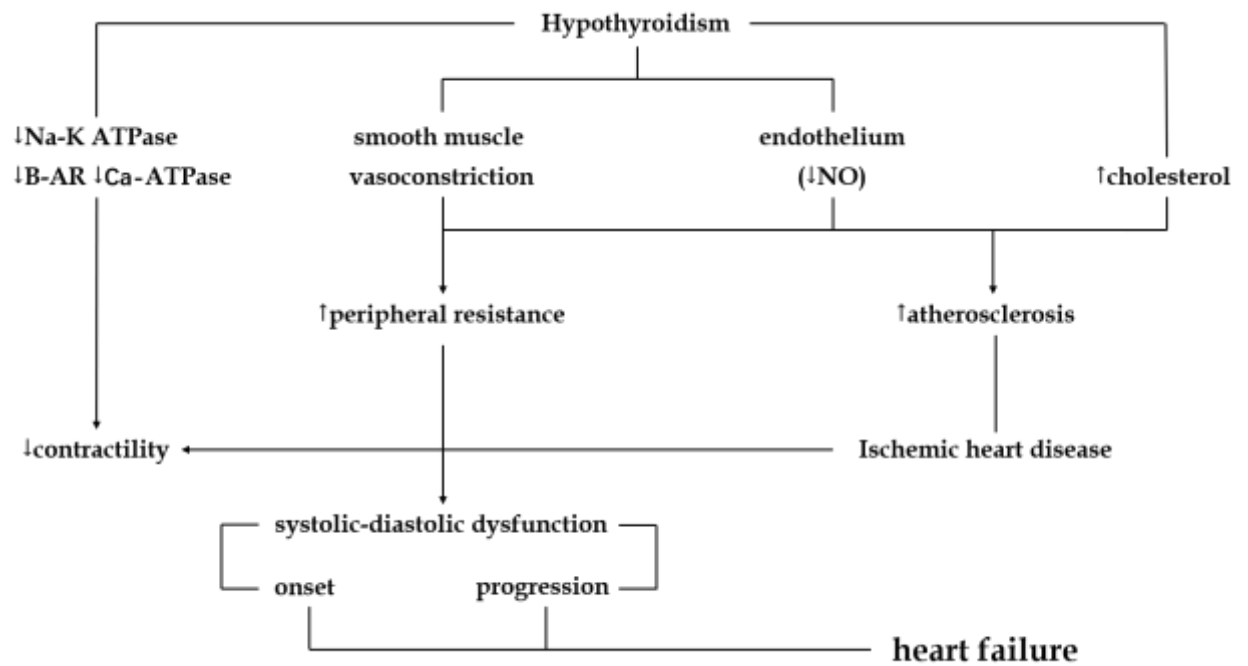


Figure 4 Molecular mechanism causes heart failure in hypothyroidism^[8].