Decreased Left Atrial Function in Morbid Obese Patients Without Known Cardiac Disease

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Introduction

- Systemic inflammation caused by obesity may lead to left atrial (LA) myopathy and subsequent left atrial dysfunction.
- Left atrial dysfunction in obesity could precede a formal diagnosis of heart failure and might be an early sign of subclinical cardiac disease.

Objectives

1. To compare LA function in morbid obese and non-obese individuals.
2. To determine whether LA function in morbid obese patients improves one year after bariatric surgery.

Methods

- Left atrial strain (LAS) (reservoir, conduit, and contractile) was analysed by speckle tracking to determine left atrial function.
- Transthoracic echocardiograms (TTE) of morbid obese patients, without known cardiac disease, were compared to an age- and gender-matched control group.
- TTE was repeated one year after bariatric surgery in the morbid obese group and LAS was compared to baseline.

Results

- Obese patients had significantly decreased LA function compared with non-obese individuals.
- There was no significant difference in diastolic function between the non-obese and morbid obese group.
- In 47 obese patients LAS did not improve significantly 1 year after bariatric surgery.

Key Findings

- Morbid obese patients without cardiac disease have impairment in all phases of LA function.
- This subclinical cardiac dysfunction would have remained largely unmasked with assessment of diastolic function according to current guidelines, as shown by the comparable proportion of obese and non-obese individuals with diastolic dysfunction. Therefore, LA impairment in obesity may precede a formal diagnosis of diastolic dysfunction and be an early sign and predictor for developing cardiac disease.
- LA function did not improve one year after bariatric surgery.

Conclusions

- Obese patients had significantly decreased LA function compared with non-obese individuals.
- There was no significant difference in diastolic function between the non-obese and morbid obese group.
- In 47 obese patients LAS did not improve significantly 1 year after bariatric surgery.