**Rheumatoid arthritis significantly increases incidence of heart failure: examination of an underestimated co-morbidity**

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**Topic(s):**
Chronic Heart Failure: Comorbidities

**Background**
The association between coronary heart disease and autoimmune inflammatory conditions such as rheumatoid arthritis has been well established and studied. We aim to elucidate another very important, but overlooked co-morbidity: heart failure.

**Purpose**
To evaluate the increased incidence of both systolic and diastolic heart failure in patients who have co-morbid rheumatoid arthritis, compared to the general population. We hypothesize that patients with inflammatory diseases such as rheumatoid arthritis will have significantly increased incidence of heart failure which will require earlier screening and prevention in this patient population.

**Methods**
This study is based on a systematic review of published literature utilizing MEDLINE, EMBASE and PUBMED that investigated the association between rheumatoid arthritis and congestive heart failure. Our study included 5,220,960 patients. We also performed a meta-regression analysis to evaluate the effect of age on incidence of heart failure. Summary relative risk (RR) and 95% confidence intervals (CI) were estimated using a random-effects model.

**Results**
In 5,220,960 patients, the incidence of heart failure was 2-fold higher in patients with rheumatoid arthritis compared to a matched control population (OR 1.835, 95% CI 1.77-1.90, p <0.00001). On meta-regression, when plotting log odds ratio of incidence of heart failure (y-axis) against age (x-axis), incidence increased further with older age (coefficient = 0.344, p=0.0001). Women were also found to have 5-fold higher incidence of heart failure with rheumatoid arthritis.

**Conclusion**
For patients with rheumatoid arthritis, there was a markedly higher incidence of heart failure compared to a matched patient population without rheumatoid arthritis. Meta-regression showed a trend towards increased incidence of heart failure with increased age that reached statistical significance. Women were also at a drastically higher risk of heart failure if they had rheumatoid arthritis.
Rheumatoid arthritis significantly increases incidence of heart failure: examination of an underestimated comorbidity

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The association between coronary heart disease and autoimmune inflammatory conditions such as rheumatoid arthritis has been well established and studied. We aim to elucidate another very important, but overlooked comorbidity: heart failure.

Purpose

To evaluate the increased incidence of both systolic and diastolic heart failure in patients who have comorbid rheumatoid arthritis, compared to the general population. We hypothesize that patients with inflammatory diseases such as rheumatoid arthritis will have significantly increased incidence of heart failure which will require earlier screening and prevention in this patient population.

Methods

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