Circulating endotrophin is associated with increased risk of mortality in individuals with HFpEF following hospital discharge after decompensated heart failure

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BACKGROUND

Endotrophin is a type VI collagen-derived fragment with bioactive properties, functioning as both a **pro-fibrotic** and **pro-inflammatory** mediator. Recent evidence suggests a **causal association** between endotrophin and the risk of cardiovascular disease. Circulating endotrophin levels have demonstrated prognostic value for adverse outcomes, particularly in patients with heart failure with preserved ejection fraction (HFpEF).

Purpose

To assess endotrophin, with two different assays, in a cohort of patients after hospitalization for decompensated HFpEF.

METHODS

Study Population & Timeline

650 Patients

with decompensated HFpEF

Recruited from a post-discharge outpatient program for vulnerable HFpEF **patients**

Hospital Discharge

(Decompensated HFpEF)

Baseline visit
1 week after discharge

1 month follow-up

Assessment at baseline & follow-up

Clinical | **Echocardiography** | **Serum samples**

Quantification of collagen formation
via ELISAs for specific collagen epitopes

PRO-C6 — **Collagen Type VI formation**

Endotrophin — **Collagen Type VI signalling**

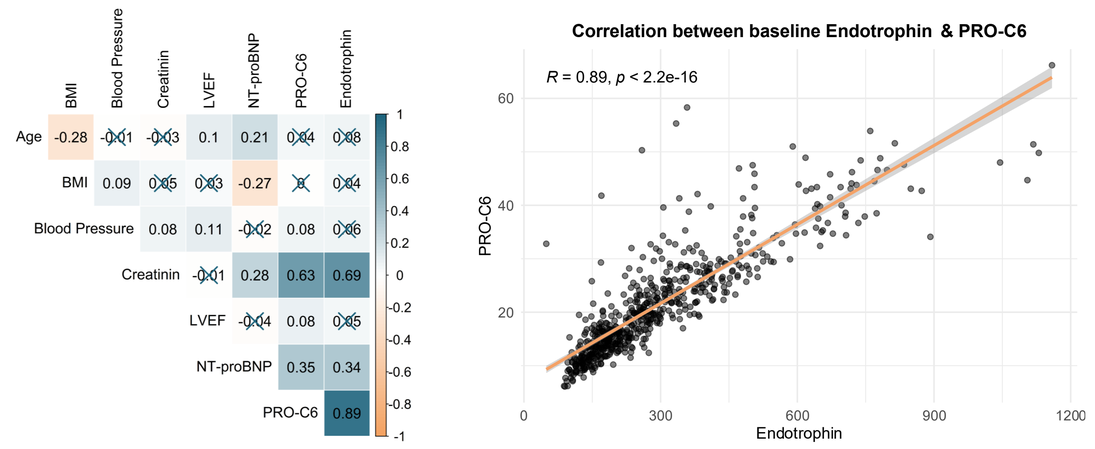
RESULTS

Baseline characteristics (n = 650)

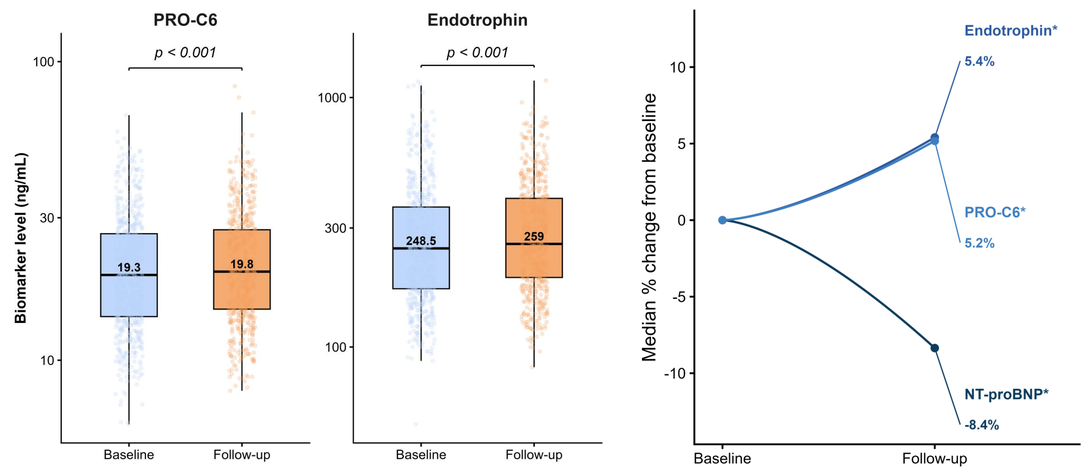
Mean age	Sex	BMI	Hypertension	Diabetes
83 years (7)	61%	27.4 kg/m^2 [24, 31]	582 (90%)	281 (43%)

Mortality	NT-proBNP	PRO-C6	Endotrophin
358 events	2204 pg/ml [916 – 4190]	19.3 ng/ml [14.0 – 26.5]	248 ng/ml [171 – 364]

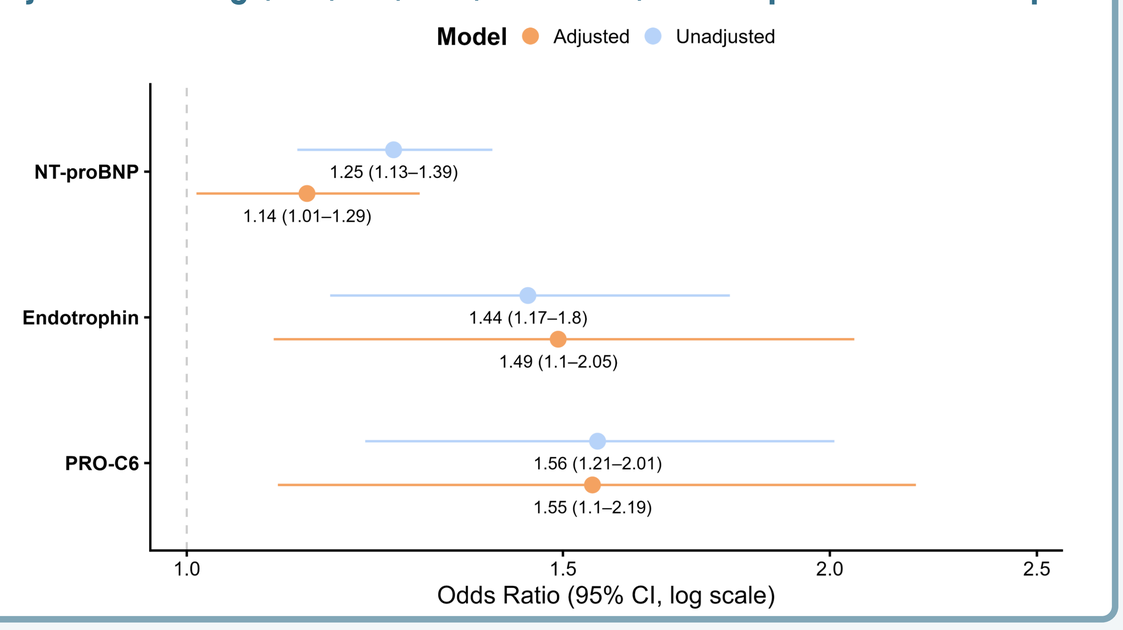
PRO-C6 and Endotrophin are strongly and significantly correlated



PRO-C6 and Endotrophin increase after discharge, unlike NT-proBNP



All biomarkers remain associated with increased mortality risk after adjustment for age, sex, BMI, LVEF, creatinine, and NT-proBNP or endotrophin



CONCLUSIONS

Endotrophin levels show **dynamic changes** early after discharge and are **independently** associated with **all-cause mortality**. The observed associations suggest that endotrophin may capture **complementary pathophysiological** information beyond established clinical risk factors. These findings support further investigation of endotrophin as a component of multidimensional risk stratification in HFpEF.

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