

This is a repository copy of Mortality Reduction Associated With β -Adrenoceptor Inhibition in Chronic Heart Failure Is Greater in Patients With Diabetes.

White Rose Research Online URL for this paper: http://eprints.whiterose.ac.uk/122304/

Version: Supplemental Material

Article:

Witte, KK orcid.org/0000-0002-7146-7105, Drozd, M orcid.org/0000-0003-0255-4624, Walker, AMN et al. (9 more authors) (2018) Mortality Reduction Associated With β -Adrenoceptor Inhibition in Chronic Heart Failure Is Greater in Patients With Diabetes. Diabetes Care, 41 (1). pp. 136-142. ISSN 0149-5992

https://doi.org/10.2337/dc17-1406

© 2017 by the American Diabetes Association. This is an author-created, uncopyedited electronic version of an article accepted for publication in Diabetes Care. The American Diabetes Association (ADA), publisher of Diabetes Care, is not responsible for any errors or omissions in this version of the manuscript or any version derived from it by third parties. The definitive publisher-authenticated version will be available in a future issue of Diabetes Care in print and online at: https://doi.org/10.2337/dc17-1406

Reuse

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

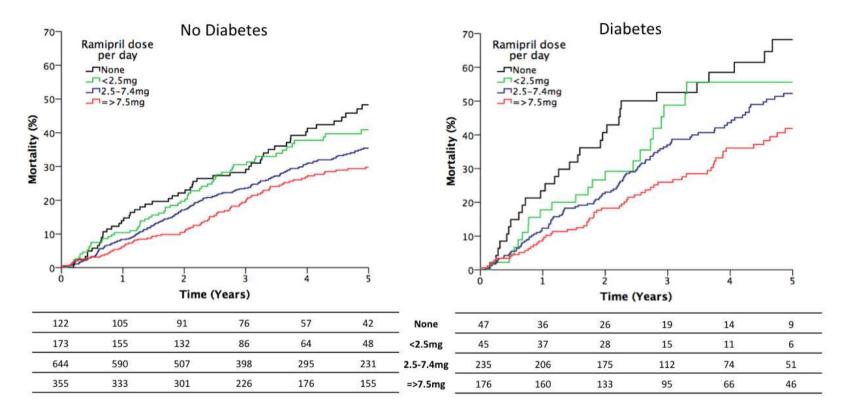


	No Diabetes				Diabetes			
Ramipril equivalent dose (mg/day)	None (n=122)	<2.5mg (n=173)	2.5-7.4mg (n=644)	≥7.5mg (n=355)	None (n=47)	<2.5mg (n=45)	2.5-7.4mg (n=235)	≥7.5mg (n=176)
Age (years)	74.2 (1)**	71.5 (1)	69 (0.5)	67.5 (0.7)	71.8 (1.5)	72.2 (1.7)	70.2 (0.7)	69.2 (0.8)
Heart Rate (bpm)	78 (1.9)*	76.6 (1.5)	75.6 (0.7)	73.1 (1)	74.9 (2.3)	78.9 (3.4)	76 (1.2)	73.6 (1.2)
Systolic BP (mmHg)	122 (2)	120.3 (2)	121 (1)	122.7 (1.1)	122.4 (2.9)	128.4 (3.8)	123.9 (1.6)	126.6 (1.7)
RPP (bpm x mmHg)	9302 (260)	9175 (253)	9166 (124)	8831 (158)	9080 (322)	9744 (473)	9309 (216)	9297 (220)
QRS duration (ms)	121 (3)	123 (2)	124 (1)	125 (2)	119 (6)	124 (5)	121 (2)	123 (2)
Hemoglobin (g/dL)	13.1 (0.2)**	13.4 (0.1)	13.7 (0.1)	13.9 (0.1)	12.5 (0.3)	12.6 (0.3)	13 (0.1)	13.1 (0.1)
eGFR (ml/min/1.73m²)	48.7 (2)**	58.7 (1.5)	60.2 (0.7)	60.8 (0.9)	44.2 (3.3)**	50.8 (2.9)	54.2 (1.3)	58.2 (1.5)
LVEDD (mm)	56 (1)*	58 (1)	57 (1)	58 (1)	56 (1)	55 (1)	56 (1)	57 (1)
LVEF (%)	33 (1)	31 (1)	32 (1)	31 (1)	31 (1)	34 (1)	33 (1)	34 (1)
Bisoprolol (mg/day)	2.9 (0.3)**	3.1 (0.2)	3.6 (0.1)	4.6 (0.2)	3.4 (0.5)**	3 (0.4)	3.9 (0.2)	5.2 (0.3)
Ramipril (mg/day)	0**	1.2 (0.01)	3.9 (0.05)	9.8 (0.04)	0**	1.2 (0.02)	3.8 (0.08)	9.9 (0.04)
Furosemide (mg/day)	46.6 (4.6)	44.6 (3.5)	43.9 (1.8)	45.2 (2.2)	85.1 (9.2)	62 (7.4)	66.8 (3.5)	67.3 (4.3)
Male sex (% [n])	65.6 (80)*	71.1 (123)	70.7 (455)	77.2 (274)	63.8 (30)*	66.7 (30)	77 (181)	80.7 (142)
IHD etiology (% [n])	59 (72)	54.3 (94)	52.5 (338)	58 (206)	78.7 (37)	64.4 (29)	72.8 (171)	66.5 (117)
ICD in situ (% [n])	8.2 (10)	14.5 (25)	10.1 (65)	14.6 (52)	10.6 (5)	6.7 (3)	12.8 (30)	11.4 (20)
CRT in situ (% [n])	19.7 (24)	27.2 (47)	23.9 (154)	29.6 (105)	27.7 (13)	15.6 (7)	23 (54)	29 (51)
NYHA III/IV (% [n])	36.1 (44)*	22 (38)	30.3 (195)	25.4 (90)	66 (31)**	42.2 (19)	38.3 (90)	26.7 (47)

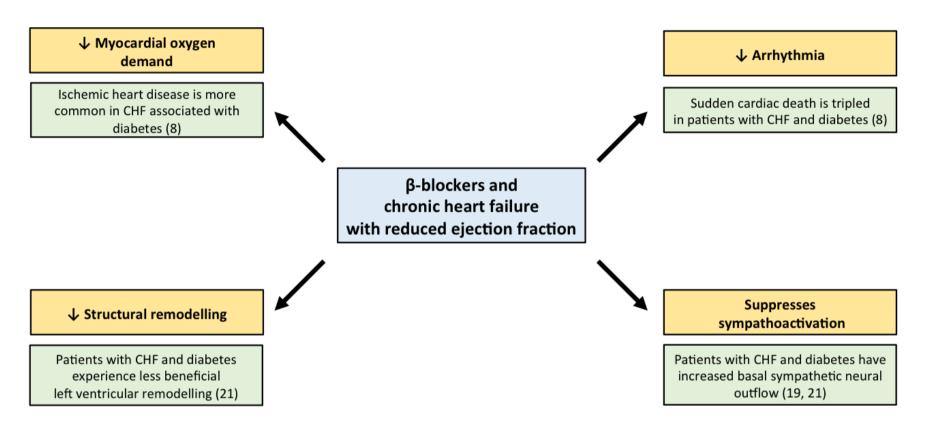
<u>Supplemental Table 1.</u> Characteristics of patient cohort divided into patients with and without diabetes, according to angiotensin converting enzyme inhibitor (Ramipril) daily dose. Data presented as mean (SEM) or % (n). P value separately compares dose

groups for patients with and without diabetes with ANOVA or chi-squared tests (*P<0.05, **P<0.005). BP=blood pressure, RPP=rate-pressure product, eGFR=estimated glomerular filtration rate, LVEDD=left ventricular end diastolic diameter, LVEF=left ventricular ejection fraction, ICD=implantable cardioverter defibrillator, CRT=cardiac resynchronisation therapy, NYHA=New York Heart Association.

Supplemental Figures



Supplemental Figure 1. Kaplan-Meier curves showing 5-year all-cause mortality according to dose of ACEI in patients with (p=0.002 across groups by log-rank test) and without diabetes (p<0.001 across groups by log-rank test). The number of patients remaining in each group (i.e. those alive and non-censored) after each year of follow-up is listed below the corresponding figure.



Supplemental Figure 2. Potential mechanisms by which β-blockers improve outcomes in patients with CHF (yellow boxes), along with potential impact of diabetes on these mechanisms (green boxes). References are provided in parentheses.