Medical therapy for patients presenting with acute heart failure in emergency departments in a large integrated healthcare system.

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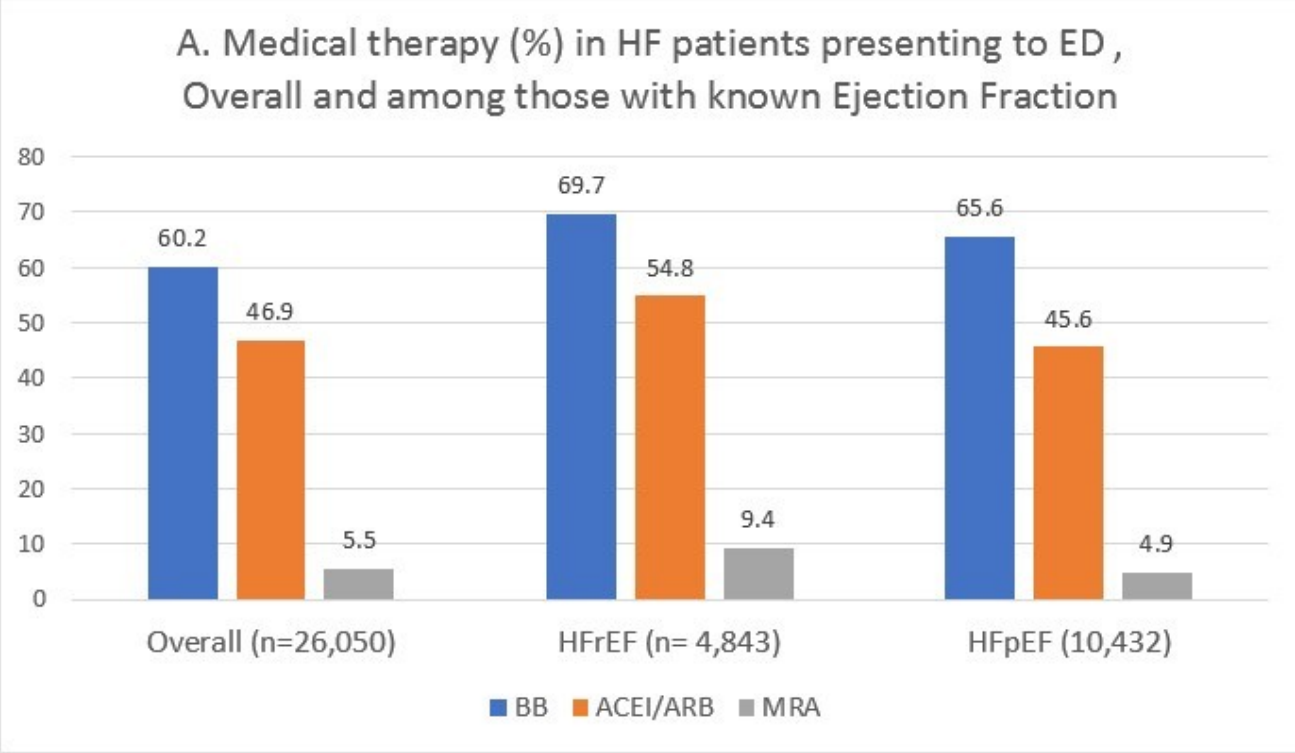
Background: Guidelines increasingly emphasize the importance of multiple medications for heart failure. For most patient with a heart failure exacerbation, the emergency department (ED) is the first point of contact and compliance with, and initiation of guideline directed medical therapy (GDMT) in this population is not well known.

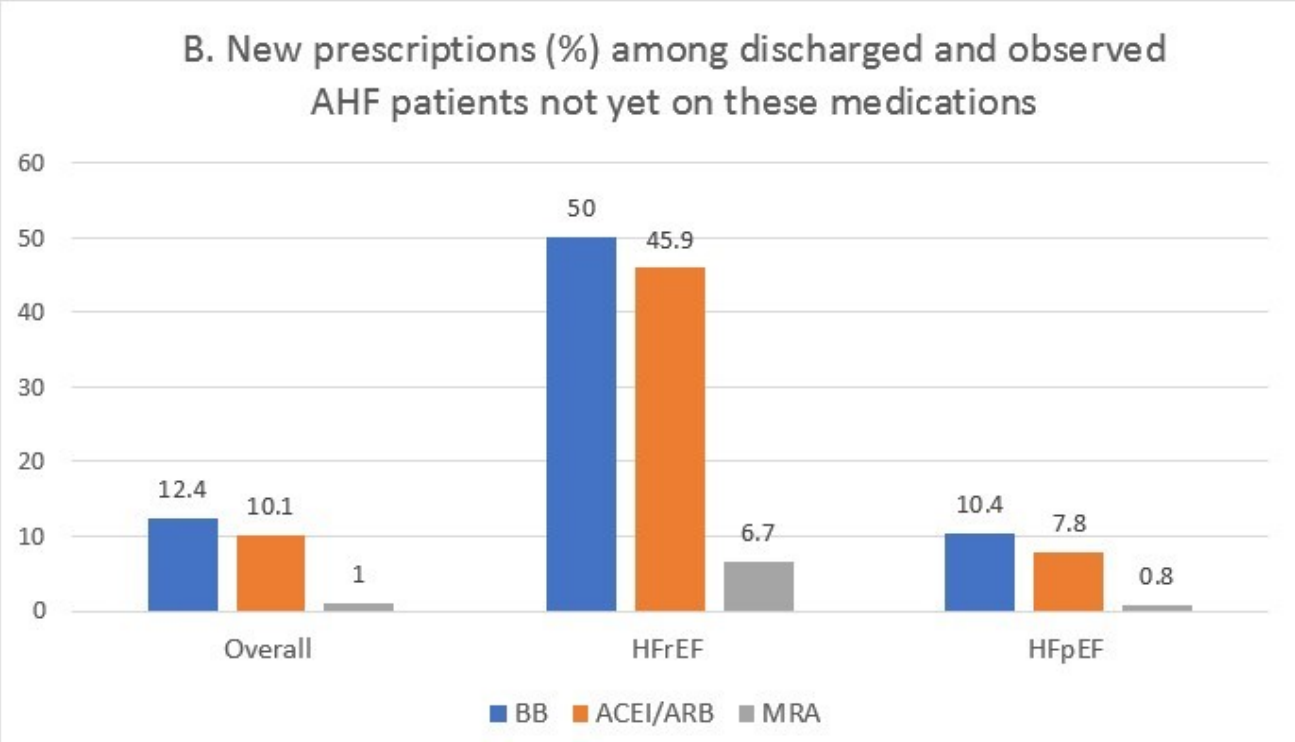
Purpose: This study aimed to assess the use of medications presenting to ED patients with acute heart failure (AHF) by overall, preserved (≥50%) ejection fraction (HFpEF) vs. reduced (<50%) EF (HFrEF).

Methods: We conducted a retrospective, multicenter study of adult ED patients with AHF from 2017 to 2018 in an integrated healthcare system with 21 hospitals. Patients were characterized by presenting use of beta blockers (BB), angiotensin-converting enzyme inhibitors (ACEI)/angiotensin II receptor blockers (ARB), and mineralocorticoid receptor antagonists (MRA), and by rate of new prescriptions among discharged and observed patients not yet on these medications, defined as no active prescription in the past 30 days.

Results: Among 26,050 ED encounters for AHF, 15,275 (58.6%) had known EF, and of those, 4,843 had HFrEF. Mean age was 76, 49.6% were women, and 60.5% were white. We found 62.4% of patients were admitted, 18.3% were observed, and 19.3% were discharged from the ED. Among HFrEF patients, 30.3%, 55.2%, and 90.6% were not on BB, ACEI/ARB, and MRA therapy, respectively (Figure A) and only 39.6% and 6.6% were simultaneously on two or three classes of medications, respectively. New prescriptions for discharged and observed HFrEF patients were high for BB and ACEI/ARB, however initiation of MRA remained low (Figure B).

Conclusions: There is an opportunity to improve optimal medical therapy among ED patients with AHF. In appropriate patients, the ED or observation unit may be an important intervention point to initiate GDMT, especially with the availability of newer medications such as angiotensin receptor neprilysin inhibitors (ARNI) and Sodium-glucose co-transporter 2 (SGLT2) inhibitors.


A. Medical therapy (%) in HF patients presenting to ED , Overall and among those with known Ejection Fraction
80
70
60
50
40
30
20
10
0
60.2
46.9
5.5
69.7
54.8
9.4
65.6
45.6
4.9
Overall (n=26,050)
HFrEF (n= 4,843)
HFpEF (10,432)
BB
ACEI/ARB
MRA


B. New prescriptions (%) among discharged and observed AHF patients not yet on these medications
60
50
40
30
20
10
0
12.4
10.1
1
50
45.9
6.7
10.4
7.8
0.8
Overall
HFrEF
HFpEF
BB
ACEI/ARB
MRA