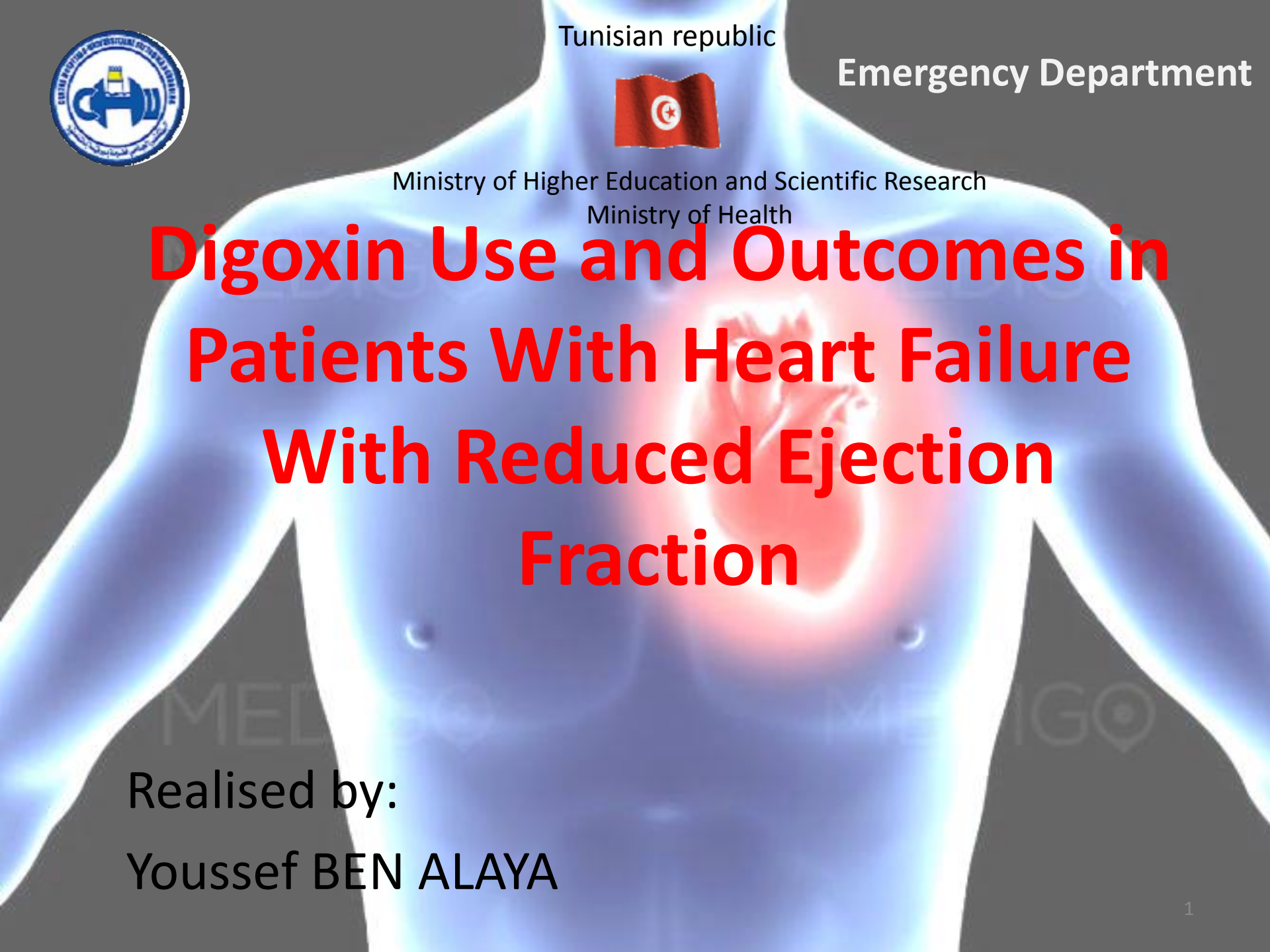

Tunisian republic

Ministry of Higher Education and Scientific Research

Ministry of Health

Emergency Department

Digoxin Use and Outcomes in Patients With Heart Failure With Reduced Ejection Fraction

Realised by:

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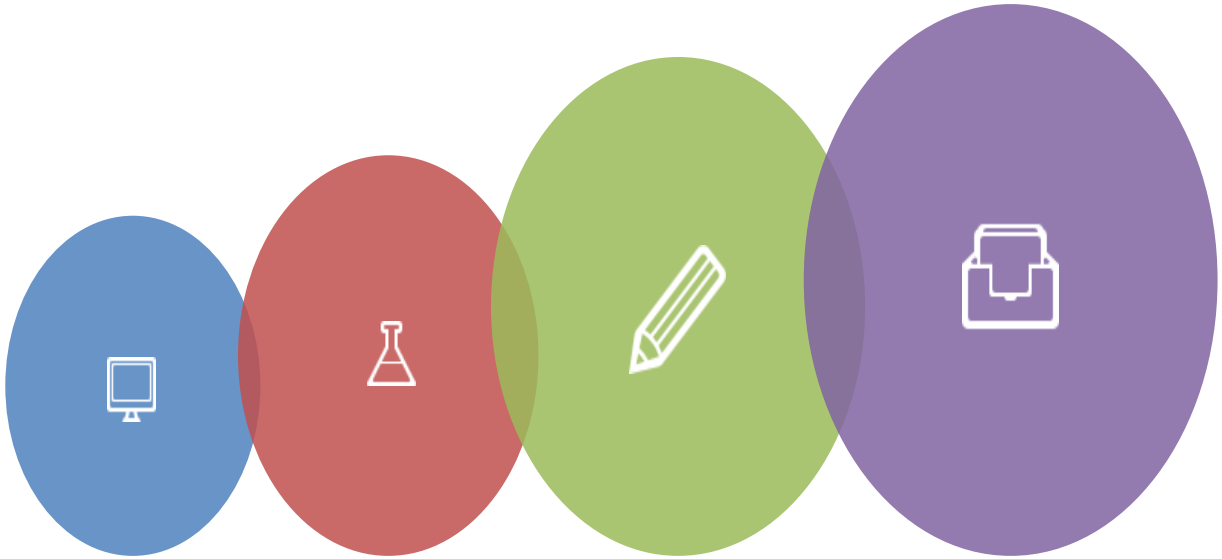
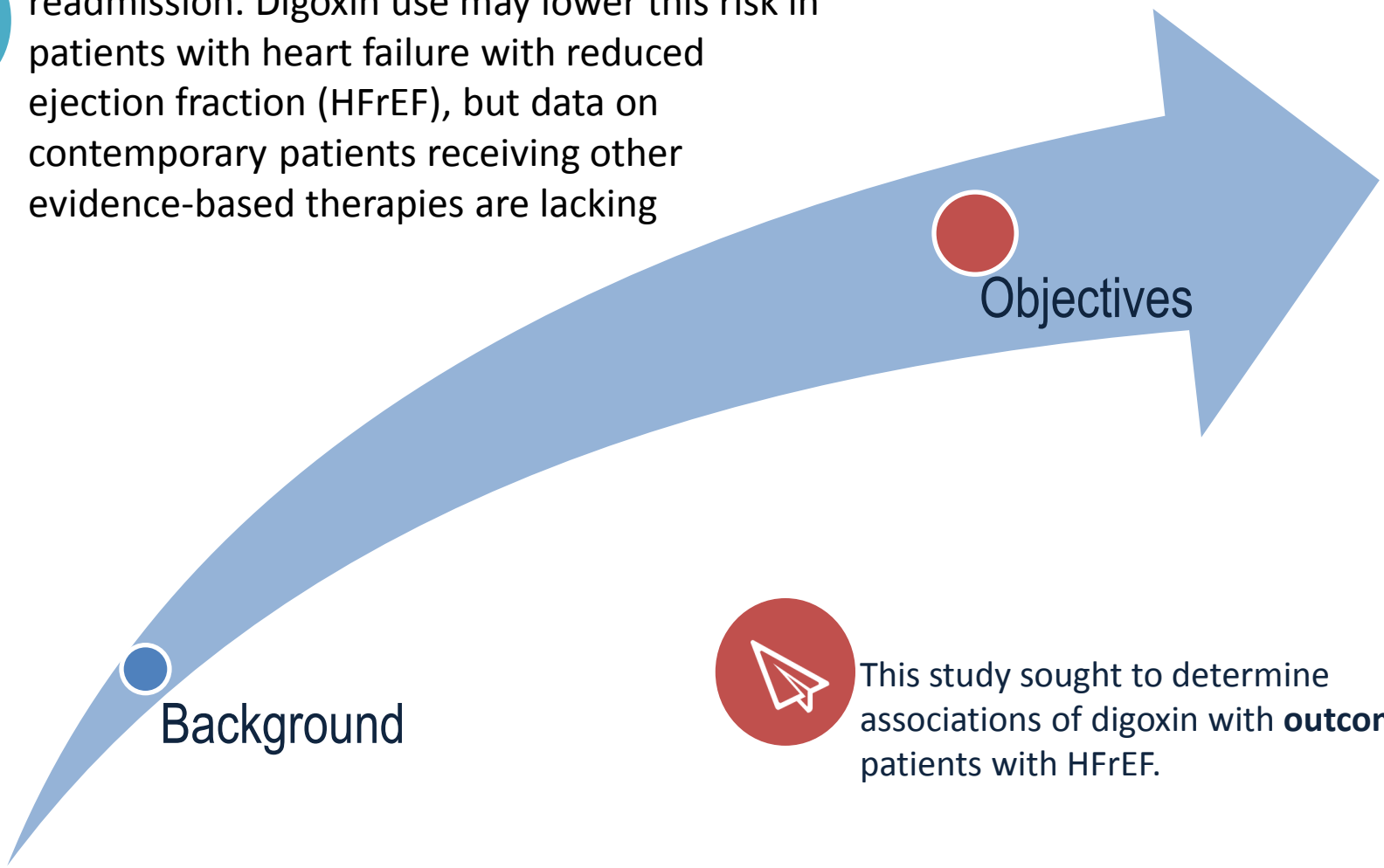
Outline



Introduction Methods Results Conclusion

Introduction

Heart failure is a leading cause for hospital readmission. Digoxin use may lower this risk in patients with heart failure with reduced ejection fraction (HFrEF), but data on contemporary patients receiving other evidence-based therapies are lacking



This study sought to determine associations of digoxin with **outcomes** in patients with HFrEF.

Methods

Of the 11,900 patients with HFrEF (ejection fraction ≤45%) in Medicare-linked OPTIMIZE-HF, 8401 were not on digoxin, of whom 1571 received discharge prescriptions for digoxin. We matched 1531 of these patients with 1531 not receiving digoxin by propensity scores for digoxin use. The matched cohort (n = 3062; mean age, 76 years; 44% women; 14% African American) was balanced on 52 baseline characteristics. We assembled a second matched cohort of 2850 patients after excluding those with estimated glomerular filtration rate b15 mL/min/1.73 m2 and heart rate b60 beats/min. Hazard ratios (HRs) and 95% confidence intervals (CIs) for digoxin-associated outcomes were estimated in the matched cohorts.

Results

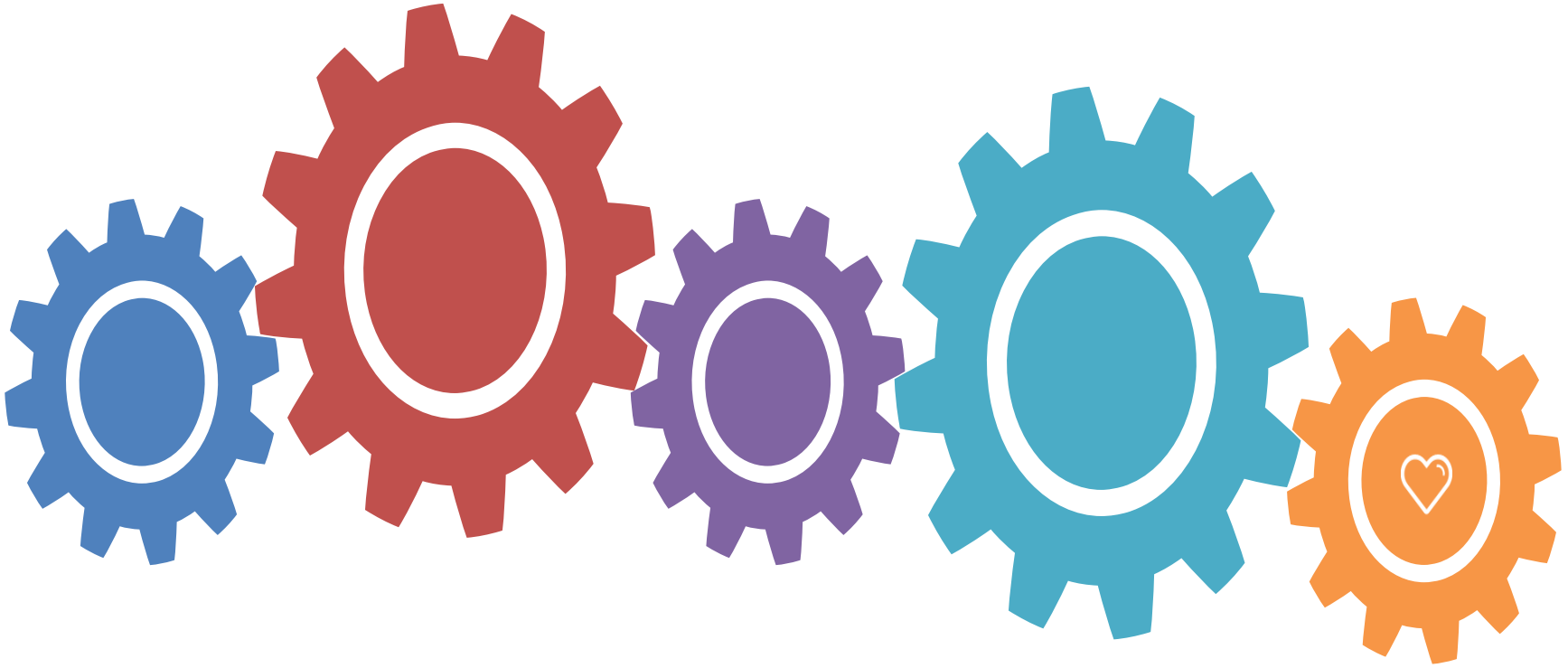


Table 2 Outcomes by the Receipt of Digoxin Before Hospital Discharge in 1531 Pairs of Propensity Score-Matched Patients With Heart Failure With Left Ventricular Ejection Fraction ≤45% Who Were Not Receiving Digoxin Before Hospital Admission

	Events (%)		Hazard Ratio Associated With Digoxin Use (95% CI)
	No digoxin (n = 1531)	Digoxin (n = 1531)	
Heart failure readmission			
30 days	166 (11%)	125 (8%)	0.74 (0.59-0.93); $P = 0.010$
1 year	550 (36%)	471 (31%)	0.81 (0.72-0.92); $P = 0.001$
6 years	769 (50%)	737 (48%)	0.90 (0.81-0.99); $P = 0.037$
All-cause readmission			
30 days	364 (24%)	332 (22%)	0.90 (0.78-1.04); $P = 0.163$
1 year	1007 (66%)	955 (62%)	0.91 (0.83-0.99); $P = 0.029$
6 years	1296 (85%)	1278 (84%)	0.92 (0.85-0.99); $P = 0.041$
All-cause mortality			
30 days	106 (7%)	90 (6%)	0.84 (0.64-1.12); $P = 0.230$
1 year	495 (32%)	473 (31%)	0.94 (0.83-1.07); $P = 0.360$
6 years	1048 (69%)	1057 (69%)	1.00 (0.92-1.09); $P = 0.990$
Heart failure readmission or all-cause mortality			
30 days	253 (17%)	207 (14%)	0.80 (0.67-0.96); $P = 0.019$
1 year	856 (56%)	788 (52%)	0.87 (0.79-0.96); $P = 0.006$
6 years	1284 (84%)	1268 (83%)	0.92 (0.86-0.99); $P = 0.045$
All-cause readmission or all-cause mortality			
30 days	422 (28%)	388 (25%)	0.91 (0.79-1.04); $P = 0.165$
1 year	1142 (75%)	1098 (72%)	0.92 (0.85-0.99); $P = 0.046$
6 years	1464 (96%)	1454 (95%)	0.93 (0.87-1.00); $P = 0.050$

CI = Confidence interval.

- All-Cause Readmission Digoxin use was associated with a significantly lower risk of readmission for all causes at 1 year (HR, 0.91; 95% CI, 0.83-0.99; P = 0.029) and 6 years (HR, 0.92; 95% CI, 0.85- 0.99; P = 0.041) but not at 30 days (HR, 0.90; 95% CI, 0.78-1.04; P = 0.163;

- Readmission for Heart Failure Among the 3062 matched patients, digoxin use was associated with a significantly lower risk of readmission for heart failure at 6 years (HR, 0.90; 95% CI, 0.81-0.99; P = 0.037; Table 2 and Figure 3, top panel). Of the 1531 pairs of propensity score-matched patients, in 59% (908/1531) of the pairs, both members of the pair had readmissions for heart failure at 6 years. In these 908 pairs in which we could determine which member had a longer 6-year heart-failure readmission-free survival, 55% (500/908) belonged to the digoxin group (sign-score test p, 0.002). A hidden covariate could explain away the associations with readmission for heart failure at 6 years if it could increase the odds of digoxin use by 8%. Digoxin use was also associated with a significantly lower risk of readmission for heart failure at 30 days (HR, 0.74; 95% CI, 0.59-0.93; P = 0.010) and 1 year (HR, 0.81; 95% CI, 0.72-0.92; P = 0.001

- All-Cause Mortality Digoxin use was not associated with all-cause mortality at any of the three time points. HR for 6-year all-cause mortality associated with digoxin use was 1.00 (95% CI, 0.92-1.09; P = 0.990; Table 2 and Figure 3, middle panel). Findings from the subgroup analyses demonstrated that the beneficial association between digoxin use and all-cause mortality at 2 years was homogenous across various clinically relevant subgroups of patients.

- : Among the 3062 matched patients, digoxin use was associated with a significantly lower risk of heart failure readmission at 30 days (HR, 0.74; 95% CI, 0.59-0.93), 1 year (HR, 0.81; 95% CI, 0.72-0.92), and 6 years (HR, 0.90; 95% CI 0.81-0.99). The association with all-cause readmission was significant at 1 and 6 years but not 30 days. There was no association with mortality. Similar associations were observed among the 2850 matched patients without bradycardia or renal insufficiency.

conclusion

- Among hospitalized older patients with HFrEF, the use of digoxin is associated with a lower risk of readmissions for heart failure and all causes, without any association with allcause mortality. These results reinforce current guideline recommendations that digoxin may be considered in patients with HFrEF to decrease the risk of hospitalization.

Thank you for your attention