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Title: Cardiovascular medications and mortality in patients hospitalised with acute exacerbations of COPD

Dr. John 12119 Steer john_steer@hotmail.com MD ¹, Dr. Carlos 12120 Echeverria carlos.echeverria@lungdocs.co.uk MD ¹, Prof. John 12121 Gibson john.gibson@ncl.ac.uk MD ² and Dr. Stephen 12122 Bourke stephen.bourke@nhct.nhs.uk MD ^{1,2}. ¹ Respiratory Medicine, North Tyneside General Hospital, North Shields, Tyne and Wear, United Kingdom, NE29 8NH and ² Institute of Cellular Medicine, Newcastle University, Newcastle-upon-Tyne, United Kingdom .

Body: Background It has been suggested that patients with COPD treated with statins, beta-blockers or ACE-inhibitors have a reduced mortality risk. We studied the relationship between cardiovascular drugs and in-hospital mortality in patients hospitalised with acute exacerbations of COPD (AECOPD). Methods Clinical data, comorbidities, maintenance medication and survival data were collected on consecutive patients hospitalised with AECOPD. The cohort was split based on the presence of vascular disease (ischaemic heart disease, cerebrovascular disease or peripheral vascular disease). Results 920 patients were recruited, most: were elderly (mean (SD) age 73.1 (10.0) years); were female (53.9%) and had severe airflow obstruction (mean FEV₁ 43.6 (17.2) % pred). 383 (41.6%) had prior vascular disease. 96 (10.4%) died in-hospital: mortality was slightly higher in those with vascular disease (11.7% v. 9.5%, p=0.28). In the total population, mortality was not related to cardiovascular medications. In those with vascular disease, statin therapy was associated with a lower mortality risk (p=0.011).

In-hospital mortality and cardiovascular medications

	In-hospital mortality (%) for total population			In-hospital mortality (%) for vascular disease		
	Drug prescribed	Drug not prescribed	p	Drug prescribed	Drug not prescribed	p
Statin	9.7	11.0	0.52	9.2	19.2	0.011
Beta-blocker	10.1	10.5	1.0	10.1	12.1	0.84
Anti-angiotensin II*	9.9	10.6	0.80	10.1	12.9	0.43

*ACE-inhibitors and angiotensin receptor blockers

Conclusions In patients with vascular disease, statin therapy was associated with a lower in-hospital mortality rate. In unselected patients hospitalised with AECOPD, cardiovascular medications were not related to outcome.

