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|  | **Table S1. Baseline patient characteristics per EHMRG risk category (N=227)**  |  |  |  |
| **EHMRG Risk category**  | **Baseline** | **Very Low** | **Low** | **Intermediate** | **High** | **Very High** |
|  | **N=227** | **N=24** | **N=22** | **N=42** | **N=48** | **N=91** |
| Age (years)\*\*\* | 73±12 | 61±10 | 63±10 | 69±10 | 76±11 | 77±12 |
| Male | 157(69%) | 16(67%) | 17(77%) | 29(69%) | 29(60%) | 66(73%) |
| BMI | 27±6 | 29±7 | 29±4 | 29±7 | 26±5 | 27±6 |
| Previously known with HF | 147(65%) | 13(54%) | 16(72%) | 29(69%) | 30(63%) | 59(65%) |
| HF aetiology  |  |  |  |  |  |  |
|  | Ischemic | 64(28%) | 3(12%) | 7(32%) | 11(26%) | 14(29%) | 29(32%) |
|  | Non-ischemic | 62(27%) | 7(21%) | 7(32%) | 14(33%) | 14(29%) | 22(24%) |
|  | Unknown at time of ED visit | 101(45%) | 16(67%) | 8(36%) | 17(41%) | 20(42%) | 40(44%) |
| Co-morbidities |  |  |  |  |  |  |
|  | Hypertension | 117(51%) | 11(52%) | 11(50%) | 20(48%) | 25(52%) | 50(55%) |
|  | Diabetes mellitus | 70(30%) | 7(29%) | 6(27%) | 11(26%) | 10(20%) | 36(40%) |
|  | CVA/TIA | 13(6%) | 0(0%) | 3(14%) | 0(0%) | 3(6%) | 7(7%) |
|  | COPD | 22(10%) | 2(8%) | 0(0%) | 4(9%) | 3(6%) | 13(14%) |
|  | Renal disease± | 37(16%) | 2(8%) | 2(9%) | 6(14%) | 7(15%) | 20(22%) |
|  | Any cancer | 27(12%) | 0(0%) | 0(0%) | 2(5%) | 3(6%) | 6(7%) |
| Cardiac History |  |  |  |  |  |  |
|  | Previous CAD¥ | 83(37%) | 7(29%) | 9(41%) | 13(31%) | 18(38%) | 36(40%) |
|  | Valvular disease | 77(34%) | 7(29%) | 10(46%) | 14(33%) | 16(33%) | 30(33%) |
|  | Atrial fibrillation | 107(47%) | 10(42%) | 15(68%) | 16(38%) | 25(52%) | 41(45%) |
|  | CRT-D or ICD | 74(33%) | 2(8%) | 4(18%) | 9(21%) | 11(23%) | 19(21%) |
| LV function  |  |  |  |  |  |  |
|  | Preserved (EF>50%) | 25(11%) | 2(8%) | 2(9%) | 3(7%) | 5(10%) | 13(14%) |
|  | Mid-range (EF 40-49%) | 43(19%) | 5(21%) | 7(32%) | 11(26%) | 8(17%) | 12(13%) |
|  | Reduced (EF <40%) | 79(35%) | 6(25%) | 7(32%) | 15(36%) | 17(35%) | 34(37%) |
|  | Unknown at time of ED visit | 80(25%) | 11(46%) | 6(27%) | 13(31%) | 18(38%) | 32(35%) |
| Laboratory results  |  |  |  |  |  |  |
|  | eGFR\*\*\* | 57(39-74) | 83(65-90) | 59(50-76) | 64(51-81) | 53(36-72) | 45(31-61) |
|  | Creatinine\*\*\* | 103(81-136) | 83(71-92) | 95(79-111) | 94 (76-119) | 105(86-125) | 122(84-171) |
|  | NT-pro BNP\*\*\* | 3884(1880-9287) | 1840(891-4602) | 2569(1571-5609) | 2523 (1527-5807) | 4530(2703-10028) | 6468(2480-15144) |
| Medication use  |  |  |  |  |  |  |
|  | Loop diuretic | 131(58%) | 11(46%) | 11(50%) | 27(64%) | 27(56%) | 55(60%) |
|  | Thiazide diuretic\* | 20(9%) | 0(0%) | 1(5%) | 2(5%) | 2(4%) | 15(17%) |
|  | ACE inhibitors | 88(40%) | 14(58%) | 13(59%) | 13(31%) | 15(31%) | 33(36%) |
|  | ARB | 20(9%) | 2(8%) | 1(5%) | 4(10%) | 5(10%) | 8(9%) |
|  | Beta-blocker | 166(73%) | 19(79%) | 18(81%) | 28(67%) | 37(77%) | 64(70%) |
|  | MRA | 26(12%) | 2(8%) | 3(14%) | 8(19%) | 5(10%) | 8(9%) |
|  | ARNI | 23(10%) | 2(8%) | 1(5%) | 4(10%) | 4(8%) | 12(13%) |
|  | Digoxin | 24(11%) | 2(8%) | 2(9%) | 4(10%) | 8(17%) | 8(9%) |
|  | Oral anticoagulation | 120(53%) | 11(46%) | 16(72%) | 20(48%) | 27(56%) | 46(51%) |
|  | Statin | 126(56%) | 15(63%) | 12(55%) | 22(52%) | 20(42%) | 57(63%) |

ACE inhibitors= Angiotensin-converting-enzyme inhibitors. ARB=angiotensin receptor blocker. ARNI=Angiotensine neprilysine receptor inhibitor. BMI= body mass index. CAD= coronary artery disease. COPD= indicated chronic obstructive pulmonary disorder. CRT-D= cardiac resynchronisation therapy-defibrillator. CVA= cerebrovascular accident. ED= emergency department. EF=ejection fraction. eGFR= Estimated Glomerular Filtration Rate HF=heart failure. ICD= implantable cardioverter-defibrillator. MRA=Aldosteron antagonist. NT-pro-BNP= N-terminal prohormone of brain natriuretic peptide. TIA= transient ischemic attack.
\*\*\* P < 0.001 between the different risk categories
± defined as chronic kidney disease in medical history
¥ defined as percutaneous coronary intervention (PCI) or coronary artery bypass graft (CABG
\* p < 0.05 between the different risk categories