In severe heart failure many deaths are sudden and are presumed to be due to ventricular arrhythmias. The GESICA trial evaluated the effect of low-dose amiodarone on two-year mortality in patients with severe heart failure. Our prospective multicentre trial included 516 patients on optimal standard treatment for heart failure. Patients were randomised to 300 mg/day amiodarone (260) or to standard treatment (256). Intention-to-treat analysis showed 87 deaths in the amiodarone group (33.5%) compared with 106 in the control group (41.4%) (risk reduction 28%; 95% CI 4%-45%; log rank test p = 0.024). There were reductions in both sudden death (risk reduction 27%; p = 0.16) and death due to progressive heart failure (risk reduction 23%; p = 0.16). Fewer patients in the amiodarone group died or were admitted to hospital due to worsening heart failure (119 versus 149 in the control group; risk reduction 31%; 95% CI 13-46%; p = 0.0024). The decrease in mortality and hospital admission was present in all subgroups examined and independent of the presence of non-sustained ventricular tachycardia. Side-effects were reported in 17 patients (6.1%); amiodarone was withdrawn in 12. Low-dose amiodarone proved to be an effective and reliable treatment, reducing mortality and hospital admission in patients with severe heart failure independently of the presence of complex ventricular arrhythmias.