Supplemental Material

Data S1.

Surgical details

The type of cardiac surgeries was as follows: isolated myectomy (n=1248, 55%), myectomy plus mitral/subvalvular apparatus surgery (n=799, 35%), myectomy plus coronary artery bypass grafting (n=153, 7%) and myectomy plus coronary artery bypass plus mitral/subvalvular apparatus surgery (n=69, 3%). The different additional mitral procedures were as follows: plication of the A2 scallop of the mitral valve (n=312, 14%), papillary muscle reorientation (n=174, 8%), papillary muscle resection (n=123, 5%), resection of cordae tendinae causing LVOT obstruction (n=209, 9%), Alfieri stitch (n=40, 2%) and mitral valve replacement (n=109, 5%). As discussed above, only in 5% patients where additional procedures did not relieve LVOT obstruction, the decision was made to replace the mitral valve. The mean basal septal septal thickness in patients with concomitant mitral procedures was 1.8±0.3 vs. 2.3±0.4 cm in those with isolated myectomy ($p<0.001$). Similarly, the amount of myocardium removed during septal myectomy was significantly lower in the subgroup with concomitant mitral procedures vs. those with isolated myectomies (6.1±3 g vs. 8.9±4 g, $p<0.001$).

Table S1. Univariable Cox Proportional Hazard analysis for primary composite endpoints (all-cause death and appropriate ICD discharge).

Variable	HR [95% CI]	p-value
Age (for every 10 year increase)	1.67 [1.41-1.76]	<0.001
Female sex	1.51 [1.18-1.89]	0.001
Family history of HCM	1.10 [0.73-1.78]	0.6
Family history of SCD	1.04 [0.71-1.59]	0.8
History of SCD	1.03 [0.51-2.06]	0.9
History of NSVT	1.37 [0.81-2.41]	0.3
History of hypertension	1.89 [0.91-3.86]	0.3
History of diabetes mellitus	1.33 [0.89-2.03]	0.3
History of smoking	1.39 [0.95-1.96]	0.3
History of obstructive CAD	2.09 [1.54-2.69]	<0.001
Syncope	1.13 [0.74-1.74]	0.5
Medical therapy for symptomatic relief of LVOT obstruction	1.04 [0.80-1.37]	0.8
5-year European SCD risk score	1.01 [0.92-1.09]	0.8
Left ventricular ejection fraction	1.04 [0.98-1.12]	0.8
Indexed left atrial diameter	1.05 [0.86-1.31]	0.61
Maximal basal interventricular septal thickness	1.03 [0.75-1.41]	0.9
Resting LVOT gradient (for 10 mm Hg increase)	1.01 [0.96-1.05]	0.6
Maximal LVOT gradient (for 10 mm Hg increase)	1.03 [0.99-1.06]	0.2
Class I indication vs. earlier indication for surgical relief of LVOT pbstruction	2.21 [1.69-2.98]	<0.001
Type of surgical relief of LVOT obstruction		
Myectomy	Reference	
Myectomy + mitral/subvalvular surgery	1.10 [0.51-2.41]	0.5
Myectomy + CABG	1.12 [0.50-2.41]	0.5
Myectomy + CABG + mitral/subvalvular surgery	1.32 [0.61-3.01]	0.4

HCM=hypertrophic cardiomyopathy, SCD=sudden cardiac death, CAD=coronary artery disease, LVOT=left ventricular outflow tract, CABG=coronary artery bypass grafting, HR=hazard ratio, CI=confidence interval

Table S2. Univariable competing risk analysis for secondary composite endpoints (deaths excluding documented noncardiac deaths).

Variable	sHR [95% CI]	p-value
Age (for every 10 year increase)	1.65 [1.49-1.82]	<0.001
Female sex	1.49 [1.16-1.93]	0.002
Family history of HCM	1.13 [0.76-1.70]	0.5
Family history of SCD	1.06 [0.73-1.55]	0.8
History of SCD	1.03 [0.53-2.01]	0.9
History of NSVT	1.41 [0.86-2.30]	0.3
History of hypertension	1.93 [0.94-3.97]	0.3
History of diabetes mellitus	1.35 [0.90-2.01]	0.3
History of smoking	1.38 [0.96-1.97]	0.3
History of obstructive CAD	2.11 [1.58-2.82]	<0.001
Syncope	1.15 [0.77-1.73]	0.5
Medical therapy for symptomatic relief of LVOT obstruction	1.04 [0.79-1.38]	0.8
5-year European SCD risk score	1.01 [0.94-1.08]	0.8
Left ventricular ejection fraction	1.04 [0.98-1.11	0.8
Indexed left atrial diameter	1.06 [0.87-1.30]	0.6
Maximal basal interventricular septal thickness	1.03 [0.78-1.36]	0.8
Resting LVOT gradient (for 10 mm Hg increase)	1.01 [0.97-1.05]	0.5
Maximal LVOT gradient (for 10 mm Hg increase)	1.03 [0.99-1.07]	0.2
Class I indication vs. earlier indication for surgical relief of LVOT pbstruction	2.29 [1.73-3.03]	<0.001
Type of surgical relief of LVOT obstruction		
Myectomy	Reference	
Myectomy + mitral/subvalvular surgery	1.12 [0.56-2.23]	0.3
Myectomy + CABG	1.14 [0.56-2.30]	0.3
Myectomy + CABG + mitral/subvalvular surgery	1.37 [0.63-2.99]	0.4

HCM=hypertrophic cardiomyopathy, SCD=sudden cardiac death, CAD=coronary artery disease, LVOT=left ventricular outflow tract, CABG=coronary artery bypass grafting, HR=subhazard ratio, CI=confidence interval