

Effect of Institutional Experience on Outcomes of Alcohol Septal Ablation

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ACC/AHA Guidelines 2011

performance of at least 40 procedures (272). As a consensus opinion, the writing committee recommends an operator volume of at least 20 procedures or that the operator work within the context of an HCM program with a cumulative procedural volume of at least 50 procedures. In addition, given the data available from experienced centers, operators and institutions should aim to achieve mortality rates of $<1\%$ and major complication rates of $<3\%$, with documented success in both hemodynamic and symptom benefit for their patients. This is best achieved in the context of a systematic program dedicated to the multidisciplinary and longitudinal care of patients with HCM.

ACC/AHA Guidelines 2011

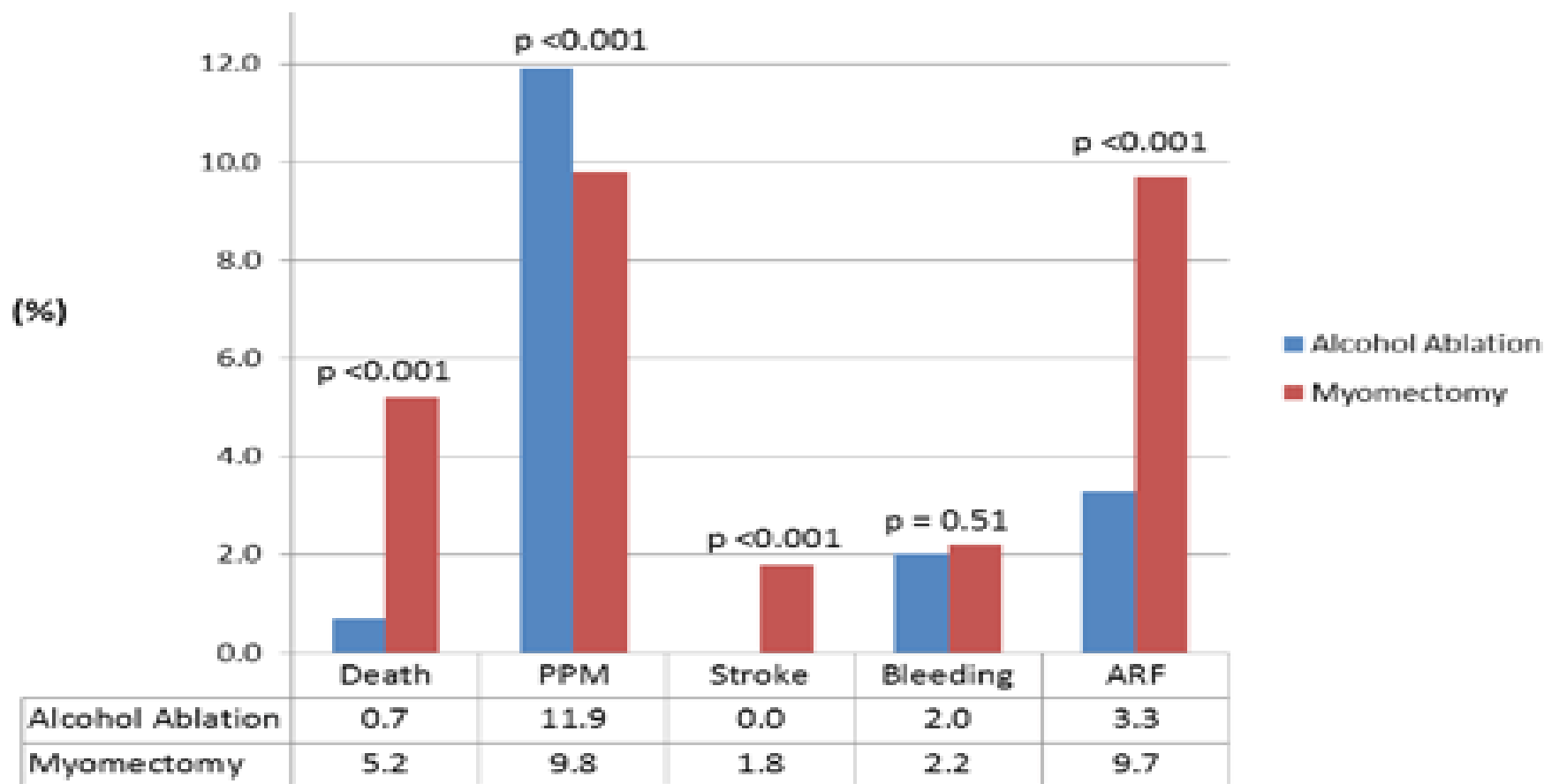
Myectomy - Results

Late Results. Relief of outflow obstruction by septal myectomy may also extend the longevity of patients with HCM (61). Although RCTs involving myectomy surgery have not been performed, in a nonrandomized study, myectomy resulted in excellent long-term survival similar to that in the general population. After septal myectomy, long-term actuarial survival was 99%, 98%, and 95% at 1, 5, and 10 years, respectively (when considering HCM-related mortality). This survival rate did not differ from that expected in a

Septal Myectomy is Associated With Worse In-Hospital Outcomes than Alcohol Septal Ablation: Data From the Nationwide Inpatient Sample in the United States, 2003-2011

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All pts. who were hospitalized for ASA (n=6.386) or MYE (n=4.862) in the Nationwide Inpatient Database from 2011 to 2013.



Clinical Research

Effect of Institutional Experience on Outcomes of Alcohol Septal Ablation for Hypertrophic Obstructive Cardiomyopathy

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Patients

- A total of **1437 patients** were enrolled in the Euro-ASA registry. Since a post-ASA complete heart block with subsequent pacemaker implantation was studied, we excluded 127 (9%) patients with permanent pacemakers or cardioverter-defibrillators (ICDs) implanted prior to ASA.
- Thus, we identified **1310 patients** with intractably symptomatic obstructive HCM that underwent ASA between 1997 and 2017.

Methods

- We retrospectively evaluated 1310 patients with symptomatic obstructive HCM undergoing ASA who were divided into two groups.
- First-50 Group consisted of the first consecutive 50 patients treated at each center, and Over-50 Group consisted of patients treated thereafter (patients 51 and above).

Thirty-day non-hierarchical occurrence of MACE

	First-50 Group N=482	Over-50 Group N=828	P value
Cardiovascular death, n (%)	10 (2.1)	3 (0.4)	0.006
Electrical cardioversion for VT/VF or ICD discharge	11 (2.3)	10 (1.2)	0.171
Cardiac tamponade, n (%)	8 (1.7)	7 (0.9)	0.189
Permanent pacemaker, n (%)	73 (15.1)	76 (9.2)	0.002
Total (%)	102 (21.2)	96 (11.7)	<0.001

Long-term results

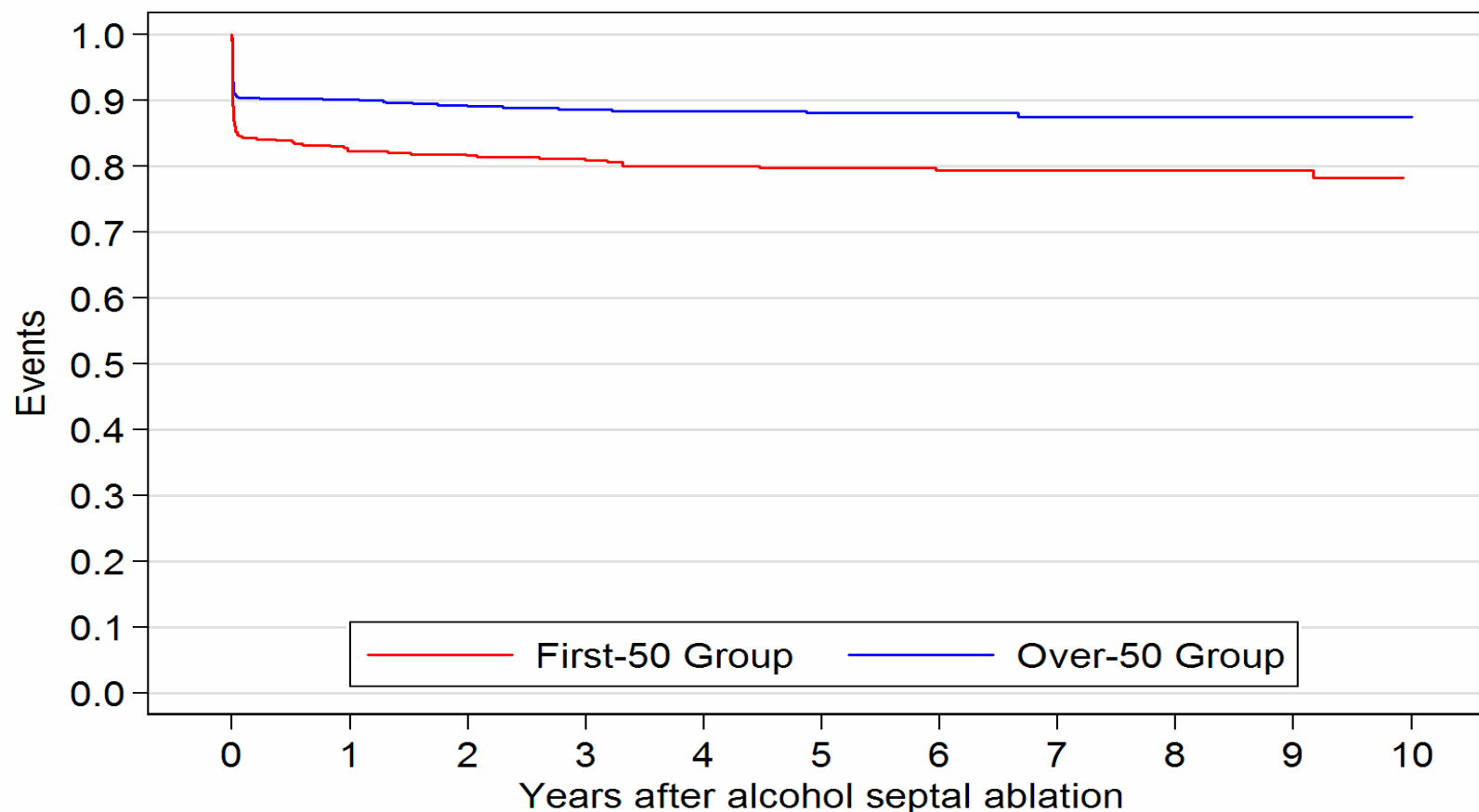
	First-50 Group N=482	Over-50 Group N=828	P value
Dyspnea, NYHA class			
Baseline	2.9±0.5	2.9±0.4	0.407
Last clinical check-up	1.8±0.7	1.6±0.7	0.002
NYHA class III/IV			
Baseline, n (%)	394 (82)	704 (85)	0.121
Last clinical check-up, n (%)	77 (16)	85 (10)	0.003
LV outflow gradient at rest, mmHg			
Baseline	73.9±41.8	66.8±34.5	0.027
Last clinical check-up	20.8±27.5	14.0±17.2	<0.001
> 30 mmHg, n (%)	75 (16)	85 (10)	0.007

Repeated interventions

	First-50 Group N=482	Over-50 Group N=828	P value
Repeated ASA, n (%)	52 (11)	56 (7)	0.012
Myectomy after ASA, n (%)	23 (5)	22 (3)	0.058
Any repeated intervention, n (%)	67 (14)	73 (9)	0.005

Kaplan-Meier curves describing survival free of **cardiovascular adverse events attributable to ASA** in the first-50 vs the over-50 group ($p<0.01$).

(adjustment for age, baseline pressure gradient, baseline septum thickness, and year of performed procedure)

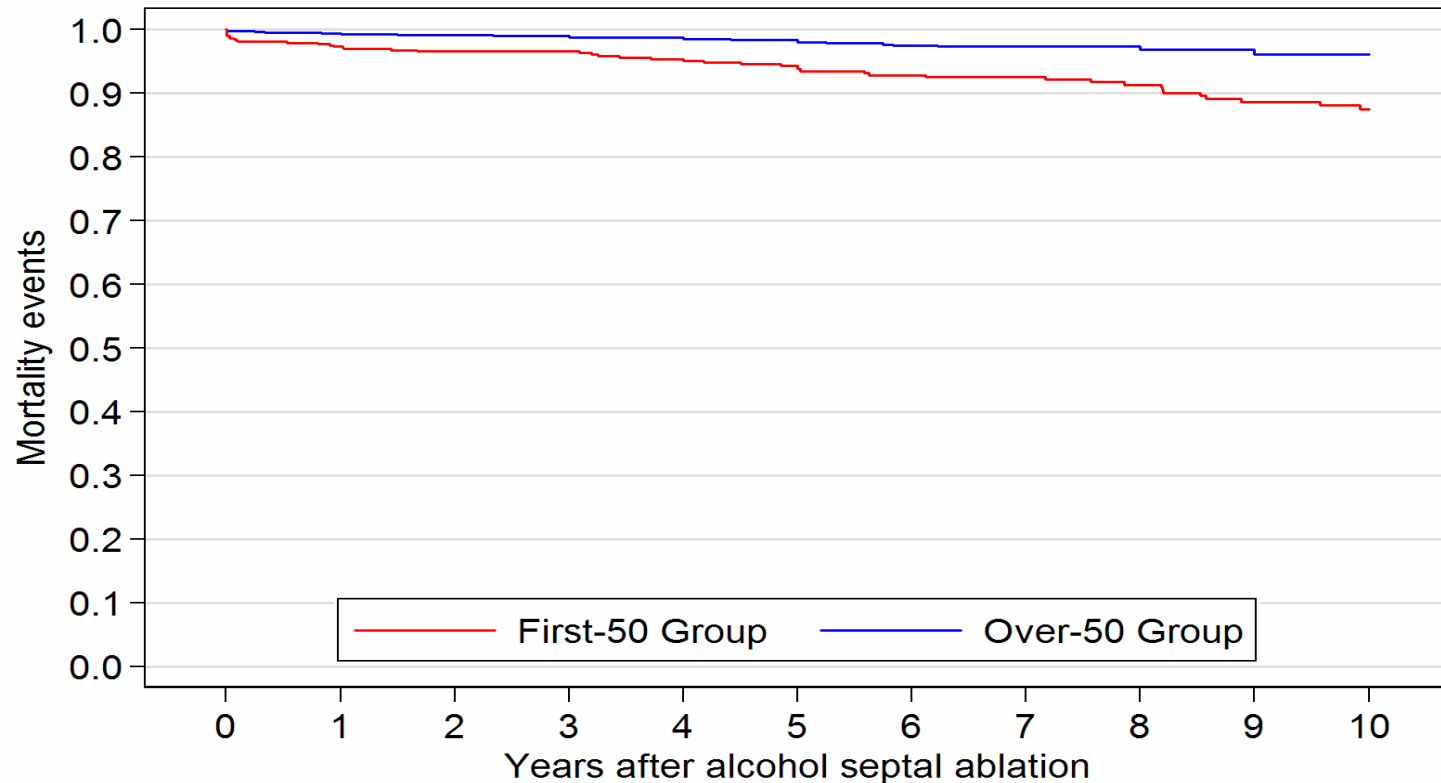


No. at risk

828	616	515	439	359	305	243	196	150	100	77
482	358	334	305	271	238	207	183	155	132	105

Kaplan-Meier curves describing survival free of **cardiovascular death** in the first-50 vs the over-50 group (**p<0.01**).

(adjustment for age, baseline pressure gradient, baseline septum thickness, and year of performed procedure)

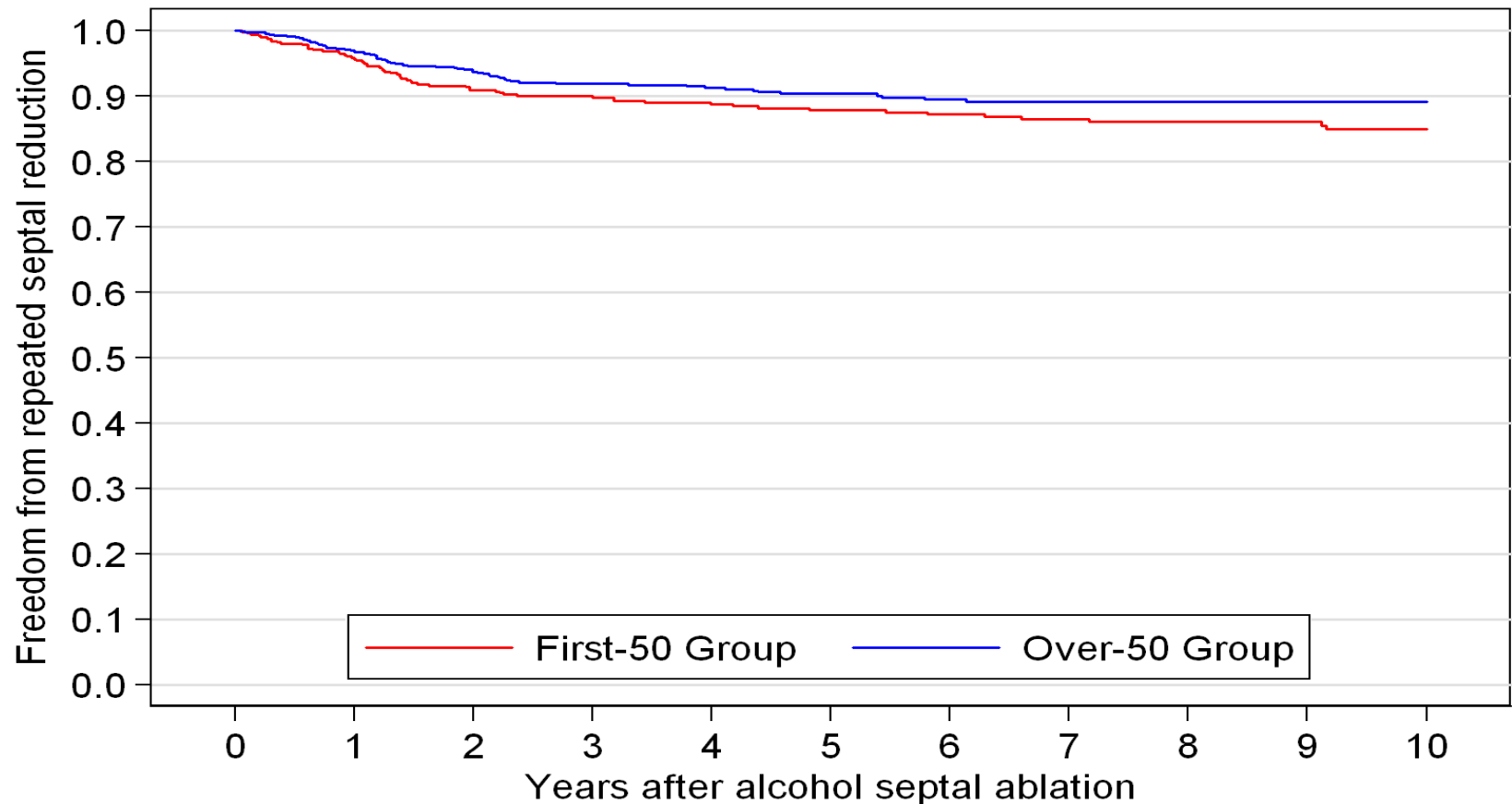


No. at risk

828	688	579	491	398	337	267	214	158	104	79
482	440	414	386	349	309	271	240	201	169	138

Kaplan-Meier curves describing survival free of **repeated septal reduction therapy** in the first-50 vs the over-50 group (p=0.03).

(adjustment for age, baseline pressure gradient, baseline septum thickness, and year of performed procedure)



No. at risk

828	668	541	454	368	310	248	202	150	99	74
482	420	370	338	303	265	228	204	170	143	114

Conclusions

- A lower occurrence of periprocedural major or cardiovascular adverse events;
- A very low (0.4%) 30-day cardiovascular death rate;
- Fewer ASA-attributable complications during the whole post-ASA course;
- More pronounced outflow gradient reduction;
- Less patients in NYHA class III/IV at the last clinical check-up;
- A lower need for repeated septal reduction therapy.

PRACTICE MAKES DIFFERENCE!

US Consequences

Table 1. US programs performing high volumes of alcohol septal ablations per guideline recommendations

Institution/program*	City, state
Westchester Medical Center	Valhalla, New York
Medical University South Carolina	Charleston, South Carolina
Scripps Clinic	La Jolla, California
Massachusetts General Hospital	Boston, Massachusetts
Stanford Medical Center	Stanford, California
Tufts Medical Center	Boston, Massachusetts
Minneapolis Heart Institute	Minneapolis, Minnesota
Mayo Clinic	Rochester, Minnesota
Cleveland Clinic	Cleveland, Ohio
Houston Methodist	Houston, Texas
Duke Medical Center	Durham, North Carolina
Baylor Medical Center	Plano, Texas
University of Colorado	Denver, Colorado
Beaumont Medical Center	Royal Oak, Michigan
University of Pennsylvania	Philadelphia, Pennsylvania
Piedmont Heart Institute	Atlanta, Georgia
University of Washington	Seattle, Washington
Baptist Health	Louisville, Kentucky

* US institutions that have performed > 50 alcohol septal ablations and maintain > 5 procedures per year, consistent with guidelines and competency statements. This is a partial listing, in estimated descending annual volume, based on discussions with alcohol septal ablation experts.