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Heart Failure and Cardiomyopathies

THE PREVALENCE AND PRESENTATION OF METHAMPHETAMINE ASSOCIATED CARDIOMYOPATHY:
A SINGLE CENTER EXPERIENCE

Poster Contributions

Poster Hall B1

Sunday, March 15, 2015, 9:45 a.m.-10:30 a.m.

Session Title: World of Cardiomyopathies

Abstract Category: 14. Heart Failure and Cardiomyopathies: Clinical

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Background: Methamphetamine use is commonly accepted as an etiology of cardiomyopathy but there is very little data to characterize its presentation.

Hypothesis: Methamphetamine associated cardiomyopathy has a distinct presentation when compared to other etiologies of cardiomyopathy in California's San Joaquin Valley.

Methods: We identified 1163 patients who had an echo performed between 9/2011 and 3/2013 with a LVEF < 50%. A review was conducted via EMR. Using diagnostic codes, etiologies by admission H&P, cardiology notes, or angiography patients were grouped by etiology into methamphetamine associated, ischemic or non drug associated cardiomyopathy. Demographic, lab, echo, and ECG data was obtained and analyzed.

Results: Of the 1120 subjects identified during the study, 121 (19%) had a history of methamphetamine use. Meth users were more likely to be younger, male, white, and have a LVEF < 30% than subjects without a history of use. Meth users were also less likely to have CAD, a finding likely driven by a younger average age of methamphetamine users and the large proportion of subjects with ischemic cardiomyopathy. Multivariate analysis showed LVEF < 30% (OR 4.26 95% CI 2.31-7.84, P = <0.002), Caucasian race (OR 2.03 95% CI 1.2-3.43, P = 0.008) and lack of CAD (OR 0.35 95% CI 0.19-0.62, P = <0.002) were independent predictors of meth use in patients with cardiomyopathy.

Conclusion: Methamphetamine use is commonly associated with/etiology of cardiomyopathy in the San Joaquin Valley and has a unique presentation.

Table 1. Demographic variables by etiology of cardiomyopathy

	Meth n=121	Ischemic n=552	Other n=447	P-value
Age	49.7±9.9	67.1±13.6	64.4±16.2	< 0.002
Ethnicity				
African American	15 (12.4%)	52 (9.4%)	60 (13.4%)	0.845
Asian	4 (3.3%)	55 (10%)	50 (11.2%)	0.087
Caucasian	66 (54.5%)	219 (39.7%)	163 (36.5%)	0.002
Hispanic	34 (28.1%)	202 (36.6%)	136 (30.4%)	0.082
Other	0 (0%)	5 (0.9%)	7 (1.6%)	0.041
Male sex	93 (76.9%)	408 (73.9%)	276 (61.7%)	< 0.002
Diabetes mellitus	42 (34.7%)	297 (53.8%)	176 (39.4%)	< 0.002
Hypertension	83 (68.6%)	399 (72.3%)	293 (65.5%)	0.071
Dyslipidemia	50 (41.3%)	347 (62.9%)	158 (35.3%)	< 0.002
Coronary artery disease	34 (28.1%)	552 (100%)	36 (8.1%)	< 0.002
LVEF < 30	98 (81%)	251 (45.5%)	261 (58.4%)	< 0.002
LVIDs	6.1±1.2	5.9±1.1	5.7±1.2	< 0.002
RVSP	40.5±13.9	40.9±12.7	41.7±14.2	0.597
Right ventricular dysfunction	31 (25.6%)	70 (12.7%)	61 (13.6%)	< 0.002
≥ Moderate valve disease	33 (27.3%)	156 (28.5%)	142 (32%)	0.433
QRS duration	105.6±25.9	112.9±31.7	106.5±31.8	< 0.002
QTc	470.9±61.2	463.6±73	460.1±83.4	0.651
Q waves	20 (16.5%)	149 (27%)	49 (11%)	< 0.002
Conduction abnormalities				0.017
LBBB	6 (5%)	48 (8.7%)	52 (11.6%)	
RBBB	5 (4.1%)	43 (7.8%)	27 (6%)	
IVCD	24 (19.8%)	91 (16.5%)	50 (11.2%)	
Rhythm				< 0.002
Sinus	108 (89.3%)	437 (79.2%)	318 (71.1%)	
A-fib/flutter	7 (5.8%)	64 (11.6%)	100 (22.4%)	
Paced/other	6 (5%)	51 (9.2%)	29 (6.5%)	
HDL	37.8±12	37±15.1	35.5±19.2	0.207
LDL	87.4±31.1	87.4±42.9	77.6±47.9	0.076
Serum creatinine	1.3±1.2	1.7±6.1	1.5±1.2	0.576
Serum sodium	138.2±4.3	138.4±11.4	137.6±15.9	0.632