

## Degenerative Mitral Valve Morphological Characteristics: Are There any Gender Disparities?

*Schwartzberg, Shmuel; Sagie, Alexander; Bental, Tamir; Shapira, Yaron; Monakier, Daniel; Weisenberg, Daniel; Vaturi, Mordehay*  
*Rabin Medical Center, Cardiology, Petah Tikva, Israel*

**Aims:** Degenerative mitral valve disease (DMVD) is a common disease and a major cause of mitral regurgitation in developed countries, with well described morphologic and epidemiologic features. Although gender is an increasingly recognized important epidemiologic factor in many cardiac conditions, putative gender-related differences in leaflet involvement have not been characterized yet in DMVD. The purpose of our study was to fill in this knowledge gap through analysis of a large registry database in our institution.

**Methods:** We identified from our institution echocardiography lab registry 614 consecutive patients with DMVD who underwent transesophageal echocardiography between 1995 and 2011. Out of this database, we excluded 89 patients who had mitral regurgitation graded as less than moderate or who had undergone previous mitral valve surgery.

**Results:** The 525 patients in our registry consisted of 159 women and 366 men. Women were slightly older than men ( $66\pm 15$  vs  $63\pm 13$  respectively,  $p<0.001$ ). The overall morphologic characteristics fell along similar lines to those described in literature, with isolated anterior leaflet involvement in 18% of the patients, isolated posterior leaflet in 59% and bileaflet in 23%. Flail leaflets were present in 58% of our patients. Mitral annulus calcification was more prevalent in women vs men (14% vs 5%,  $p<0.01$ ). As shown in the table below, despite typical gender variation in certain morphometric characteristics, we did not find any statistically significant difference in the DMVD pattern of leaflet involvement in females versus males.

**Conclusions:** We did not find evidence of gender disparities in the pattern of leaflets affected in DMVD associated with significant mitral regurgitation. Mitral annulus calcification, which is also a degenerative condition, was more prevalent among female patients, similar to that described in a recent large cross-sectional study (MESA study).

### Variables by Gender

Variable	All patients	Female - N $\pm$ SD or (percentage out of same gender)	Male - N $\pm$ SD or (percentage out of same gender)	P value
Gender	525	159	366	
Age [years]	64 $\pm$ 14	66 $\pm$ 15	63 $\pm$ 14	p<0.01
Height [cm]	168 $\pm$ 16	157 $\pm$ 24	174 $\pm$ 7	p<0.01
Weight [kg]	75 $\pm$ 17	65 $\pm$ 18	84 $\pm$ 59	p<0.01
LA area [cm <sup>2</sup> ]	31 $\pm$ 9	30 $\pm$ 9	31 $\pm$ 9	NS
LVEDD [mm]	57 $\pm$ 4	55 $\pm$ 3	57 $\pm$ 4	p<0.01
Severe MR	293 (56%)	79 (50%)	214 (58%)	NS
Moderate-severe MR	132 (25%)	44 (28%)	88 (24%)	
Moderate MR	99 (19%)	35 (22%)	64 (17%)	
TR gradient [mm Hg]	26 $\pm$ 18	27 $\pm$ 17	27 $\pm$ 17	NS

Mitral annulus calcification	39 (7%)	23 (14%)	16 (4%)	p<0.01
Isolated anterior leaflet	95 (18%)	33 (21%)	62 (17%)	NS
Isolated posterior leaflet	308 (59%)	93 (58%)	215 (59%)	NS
Bi-leaflet	122 (23%)	33 (21%)	89 (24%)	NS
Flail valve	305 (58%)	89 (56%)	216 (59%)	NS
Normal EF ( $\geq 50\%$ )	454 (86%)	148 (95%)	306 (87%)	NS (0.07)
Reduced EF ( $\leq 50\%$ )	54 (10%)	8 (5%)	46 (13%)	NS