

Severe Dyspnea During Pregnancy: Characteristics and Possible Cardiac Involvement

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	LVEDd	LVESd	IVS	PAP	E decelIT
Control mean	54.8	32.1	8.8	17.3	205.9
STD	19.6	4.0	0.9	4.7	38.9
Dyspnea mean	45.4	28.1	9.9	30.8	139.6
STD	4.4	5.4	1.1	7.7	41.6
P	0.060	0.041	0.010	0.003	0.000

Background: Dyspnea is often associated with pregnancy, but when no extracardiac etiology is found, the possibility of a cardiac source must be entertained.

Aim: To characterize pregnancies associated with severe dyspnea and rule out a possible cardiac etiology.

Method: Twenty five pregnant women with no confounding diseases who were admitted for investigation of severe dyspnea were recruited for this study if no reason was found for their dyspnea. We performed ECGs, echocardiograms (including analysis of longitudinal and circumferential strain), Holter, exercise testing (including, respiration and O₂ saturation), chest X-ray and CT when indicated clinically. Demographic and obstetric data were collected. We compared 19 patients with dyspnea to paired pregnant women with no excessive dyspnea.

Results: Patients with severe dyspnea were 32±5 years old, presented in the 39.6±1.7 week of gestation, 3 (16%) had twins, 6 (32%) were primiparas, HR and BP were normal and hemoglobin was 11.4±1.2 g%. ECG and echocardiogram were within normal limits. Tachycardia >120/min was found on Holters in 60% and 2 patients had SVTs. On dyspnea-limited exercise tests HR increased from 100 to 128 bpm and BP from 110/67 to 129/70 mmHg. Exercise time was 294 sec and only 4.6 METs were achieved (30% could complete only 1 stage of Bruce). SO₂ decreased during exercise from 98.2 to 97.7% (in one to 94%). On echo, patients with dyspnea had smaller and thicker hearts, elevated pulmonary pressures and a decreased E deceleration time (Table). No significant differences were found in 2D strain and tissue Doppler velocities.

Conclusions: Dyspnea during pregnancy is probably multi-factorial. In this pilot study we found much individual variability in symptoms and findings on multiple tests. However, echocardiography findings raise the possibility that a decreased LV compliance in the face of a physiologically elevated preload may play an etiologic role and further investigation is underway.