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### 134. CORRELATION OF TWO-MINUTE HEART RATE VARIABILITY ANALYSIS, BECK ANXIETY INDEX, AND MODIFIED HEALTH ASSESSMENT QUESTIONNAIRE (MDHAQ) WITH FIBROMYALGIA TENDERNESS SCORE

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**Background:** Autonomic dysregulation may be an important feature of Fibromyalgia (FM) leading to novel interventional approaches. Heart Rate Variability (HRV) uses mathematical calculations of R-R interval changes during the normal respiratory cycle of sinus arrhythmia, which is an indirect measure of central, basal autonomic tone. Established and validated for high level athletic training and cardiovascular disease research, its application for FM is developing. Twenty-four hour monitoring has demonstrated autonomic dysregulatory features in FM, but its clinical use is cumbersome. A new, twominute HRV technique developed and validated for athletes (OmegaWave, Inc., Eugene, Oregon, USA) was evaluated as a more convenient method to assess autonomic status in patients with FM.

	BAI		MDHAQ(VAS)		HRV
Total	0.495**	Function	0.626**	Vagus	-0.172#
Panic	0.493**	Psych	0.467**	Sympathetic	0.312*
Subjective	0.350*	Pain	0.570**	Tension Index	0.376**
Neuro	0.388*	Stiffness	0.531**	Total Power	-0.243
Autonomic	0.252#	Fatigue	0.425**		
		Global	0.684**		

\*p < 0.05 \*\*p < 0.001 # NS

**Methods:** With OmegaWave HRV, 52 consecutive patients with chronic FM (41 F, 11 M, mean weight 184.5 lbs, mean age 48.8, FM duration 8.9 yrs., mean FM meds used 6.5) were evaluated at a private, suburban, referral based rheumatology clinic. Co-morbidities included: degenerative spine pain 58%, anxiety 21%, depression 21%, and bipolar disorder 10%. Medications used included: benzodiazepines 33%, PM antidepressant 39%, dialy narcotics 35%, dopamine agonist 25%, SSRI 23%, antipsychotic 12%, NSAID 33%, and antiepileptic 21%. HRV data was compared to tenderness score, MDHAQ and Beck Anxiety Index (BAI) at one assessment. Tenderness score (0-54) was the sum of 18 classic tender points, each scored by severity (0=painless, 1/2=minimal, 1=4kg pressure, 2=severe, 3=exquisite.) Mean Pain Score was 18.0 despite current treatment. Results are Pearson correlation with tender point score.

**Results:**

**Conclusions:** In such a challenging field of research, these non-invasive assessment tools, including HRV, may be helpful evaluating FM activity and treatment responses.