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## Poster Presentations:

**RA treatment: Anti-TNF agents (Abstract Nos. 213-232)**  
Rheumatology 2003 42: 86-92.

## 226. ETANERCEPT AS EFFECTIVE MONO-THERAPY FOR RHEUMATOID ARTHRITIS: CORRELATION WITH MEASURES OF AUTONOMIC NERVOUS SYSTEM ACTIVITY

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**Background:** Despite the dramatic advance of anti-TNF therapy for rheumatoid arthritis (RA), only a portion of patients taking etanercept as monotherapy achieve excellent control. To date, no specific feature has distinguished this most responsive group or predicted who responds to etanercept alone and who requires an etanercept/DMARD combination for effective control of synovitis. Recent interest in how autonomic central nervous system activity and dysomnia influences etanercept efficacy (EULAR 2002) has sparked interest in whether measures of autonomic activity, such as heart rate variability, may correlate with effective use of etanercept as monotherapy in RA.

**Methods:** MDHAQ and basal autonomic nervous system activity measured with Heart Rate Variability (HRV) and Beck Anxiety Index (BAI) were assessed in 31 consecutive patients (11M, 20F) with established RA (11.6 yrs) under excellent control (<4 tender joints). All patients were using etanercept >6 mos. (mean 22 mo) in a private, suburban rheumatology clinic. Patients with co-morbid fibromyalgia were excluded. Twelve required DMARD and/or prednisone with etanercept, 19 required etanercept alone. All had participated in aggressive attempts to minimize DMARD and steroid use after adding etanercept. Demographics in each group were not statistically different (age, RA duration, RF positivity, ANA positivity, ESR, Hematocrit, CRP, duration of etanercept use, weight) by Pearson Correlation and did not predict successful use of etanercept as monotherapy. Only tender joint count

Multi-Dimensional Health Assessment Questionnaire (MDHAQ)

	Etanercept monotherapy	Etanercept/DMARD combination	Pearson correlation
Function	0.54	2.88	0.627**
Psychiatric	1.17	4.68	0.681**
VAS Pain	0.83	4.52	0.701**
Stiffness (min.)	5.0	51.5	0.591**
VAS Fatigue	1.24	5.53	0.714**
VAS Global	1.41	4.20	0.563**

\*p < 0.05, \*\*p < 0.001

Beck Anxiety Index and Heart Rate Variability			
Beck Anxiety Index	Etanercept monotherapy	Etanercept/DMARD combination	Pearson correlation
Total score	3.68	12.5	0.55**
Autonomic sub-score	1.16	3.17	0.423*
Heart rate variability	0.17	0.12	-0.409*
Vagus			
Sympathetic	51	65	0.410*
Tension Index	217.8	490.9	0.506*
Total Power	516.1	351.8	NS

\*p < 0.05, \*\*p < 0.001

was slightly, but statistically different in the monotherapy group (0.21±0.63) compared to the etanercept/DMARD (2.5±2.7) combination group.

**Results** are presented in the tables.

**Conclusions:** No parameter correlated with successful etanercept monotherapy except MDHAQ, BAI and HRV. Whether controlling sympathetic activity enhances etanercept efficacy or decreases autoimmune disease activity, identifying and addressing this issue may improve patient care and decrease adverse events from continued use of combination therapy.