Introduction

A threat paradigm was implemented to investigate anxiety-related changes in reflex receptive field (RRF) areas. The following method was used to determine RRF areas:

1. 10 electrodes were mounted on the sole of the foot and a common anode was placed on the foot dorsum.
2. EMG was recorded with surface electrode over the tibialis anterior (TA) after the stimulation of each site.
3. A Z score was computed with the EMG from the 200 ms prestimulation period (baseline window) and the peak EMG that occurred in the 80-180 ms poststimulation period (Peak NWR window). Z scores were computed in the following way:

\[
Z = \frac{\text{EMG}_{\text{Peak NWR window}} - \text{Average Baseline Window}}{\text{SD} \text{ of [Baseline Window]}}
\]

(4) If the Z score was greater than 12, a nociceptive reflex was detected. The probabilities for all foot stimulation sites were then interpolated and modulated onto a schematic of a foot.

Methods

Objectives

Methods cont.

Experimental procedures to examine threat induction on nociceptive reflex receptive fields (RRF)

Data Analysis

Anxiety scores were significantly greater during Threat periods (M=1.51, SD=0.53) [t(24) = 6.19, p<.001, Cohen’s D=1.31].

Pain (N=21)

Pain scores were significantly greater during Threat periods (M=4.86, SD=1.04) than Safe periods (M=4.71, SD=0.95) [t(20) = 2.31, p=.03, Cohen’s D=1.4].

Reflex Receptive Field Areas (N=20)

RRF areas were significantly larger during the Threat periods (M=47, SD=2.29) than in the Safe periods (M=41, SD=2.9) [t (19)=2.78, p<.01, Cohen’s D=2.0].

Conclusion

Top down facilitation and inhibition balance

References