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等长收缩诱发肌肉疲劳及恢复过程中sEMG特征变化规律

杨红春*[1]、王健[1,2]、张海红[1]
1 浙江大学心理系
2 浙江大学体育科学与技术研究所

运用线性和非线性分析方法分析不同强度等长收缩诱发局部肌肉疲劳及恢复过程中sEMG特征的变化规律，探讨影响sEMG信号变化的可能原因和机制。结果显示，在肱二头肌疲劳收缩过程中sEMG特征指标AEMG、MPF、C(n)和%DET的变化具有良好的规律性。恢复期AEMG没有表现出规律性的变化，MPF、C(n)和%DET在恢复期2秒即显著恢复，在前10秒恢复很快，随后恢复速度变慢。恢复期sEMG信号特征的快速变化提示中枢控制因素很可能对sEMG信号特征的变化影响更大。

Changes of sEMG Parameters during Isometric Fatiguing Contractions and Recovery Period

Surface electromyographic (sEMG) signals during isometric fatiguing contractions were analyzed with both linear and non-linear method to investigate the possible factor which dominated the changes in sEMG signals. The results demonstrated that the sEMG parameter AEMG, MPF, C(n) and %DET in bicep bracii(BB) muslce changed regularly during fatiguing contractions. In recovering period AEMG did not show observable regularity while MFP, C(n) and %DET remarkably recovered only by 2 seconds. These three parameters regressed rapidly in the initial 10 seconds and then slowed down. The rapid changes of sEMG parameters in recovery periods suggest that central controlling facto may play a more important role in shaping sEMG signals.

关键词