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題目 (Title):

腦性麻痺兒童膝伸肌痙攣與肌肉容積的相關性
(The Relationship Between Spasticity and Muscle Volume of the Knee Extensors in Children With Cerebral Palsy)

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目的 (Purpose):

本研究目的在以等速肌力儀及核磁共振影像技術檢測腦性麻痺兒童痙攣與肌肉容積的相關性。
(The purpose of this study was to examine the relationship between spasticity and muscle volume in children with cerebral palsy (CP), using isokinetic dynamometry and magnetic resonance imaging.)

方法 (Methods):

本研究回溯分析 8 位腦性麻痺孩童。以貼在內腿後肌和股外側肌的肌電圖表面電極同步記錄每秒 180°，共 10 回的被動性膝關節彎曲運動來檢測膝伸肌身肌痙攣。以核磁共振影像技術量測股四頭肌的最大橫截面積及肌肉容積。
(A retrospective sample of 8 children with diplegic CP was analyzed. One set of 10 passive knee flexion movements was completed at a velocity of 180° per second with concurrent surface electromyography of the medial hamstrings (MH) and vastus lateralis (VL) to assess knee extensor spasticity. Magnetic resonance imaging was used to measure maximum cross-sectional area and muscle volume of the

quadriceps femoris.)

結果 (Results):

股四頭肌的肌肉容積與內腿後肌的反射活動、股外側肌的反射活動、內腿後肌和股外側肌的同時收縮及被動膝伸肌力矩呈現正相關 ($p < 0.05$)。

(The quadriceps femoris muscle volume was positively correlated with MH reflex activity, VL reflex activity, MH/VL co-contraction, and peak knee extensor passive torque ($P < .05$.)

結論(Conclusions):

本研究結果發現對於下肢痙攣型腦性麻痺兒童，較高的膝伸肌痙攣與較大的股四頭肌容積呈現相關。

(The present findings suggest that higher levels of knee extensor muscle spasticity are associated with greater quadriceps muscle volume in children with spastic diplegic CP.)