Progress using the Motor Function Measure for NMDs

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The MFM (Motor Function Measure) is a well-validated scale, consisting of 32 brief items and used for the evaluation of patients with most neuromuscular conditions

in Duchenne Muscular Dystrophy

A recent study using the MFM in DMD demonstrated good sensitivity to change over 1 year and showed that a total MFM score of 70% with a D1 subscore (standing and transfers) of 40% predicted loss of ambulation 1 year later. The decline over 1 year was much less in steroid-treated than untreated boys (0.64 vs. -5%).

The study also showed a 58% change per annum in DMD patients over a mean of 16 months, with a Standardised Response Mean (SRM = mean difference/SD of difference) of 0.86. The D1 score is particularly useful for ambulant patients.

The MFM was discussed at the Washington DC, Meeting on Clinical outcome measures in Duchenne Muscular Dystrophy in June 2010 organised by the Children’s National Medical Center and Treat-NMD.

Dr Carole Vuillerot presented the Use of the MFM to assess motor function in patients with SMA at the September, 2009 Neuromuscular Diseases conference in Geneva 94 SMA patients were evaluated. The decline in total MFM with age was similar in type II and III SMA (figure, right), and on follow-up it progressed at -0.94 and -1.4% per annum respectively. Based on their Standardised Response Means, the D2 subscore (axial and proximal motor function) would be an appropriate outcome measure in SMA type II and the D1 subscore in SMA type III.

a new version for Pediatric use

The MFM-20 is a short version of the MFM, consisting of 20 items rather than the 32 items in the standard scale. A validation study (to be published) was performed with 88 children with neuromuscular diseases of various types at 13 European hospital centres, aged between 2 and 6 years 40% of patients had a dystrophinopathy, 20% spinal muscular atrophy and 14% CMT disease. Each item of the MFM was tested for its applicability to the pediatric group. The resulting scale, the MFM-20, consists of 8 items in the D1 subscale, 8 in D2 and 4 in D3 (distal motor function). Average completion time is less than 20 minutes.

The MFM-20 is contained within the MFM manual, available for download at www.motor-function-measure.org.

運動機能評価尺度（MFM）

運動機能評価尺度は32項目の短いテストからなり、いかなる種類の神経筋疾患患者の評価にも利用可能である。

現在5カ国語に翻訳されており、理学療法士や医師は1日のトレーニングを受けるだけで実践可能である。

32項目の評価尺度は3部から構成され、
(1)起立や移動に関する項目 （13項目）
(2)近位筋や体幹筋機能に関する項目 （12項目）
(3)遠位筋機能に関する項目 （7項目）からなる。

評価尺度は6歳から66歳の神経筋疾患患者で利用可能であることが確認されている（参考文献：Berard, Payan, Hodgkinson, Fermanian and the MFM Study Group, A motor function measure for neuromuscular diseases Construction and validation study Neuromuscular Disorders 2005 Jul;15(7);70).

他の報告でも臨床経験の結果や外来患者を評価する目的で使用されている。
小児用の更に短い評価尺度としてMFM-20も現在作成中である。

更に詳細な情報はhttp://www.motor-function-measure.orgに得られます。