Clinical Subsets of Inclusion Body Myositis (P9-8.004)

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Abstract

Objective: To show clinical subsets of patients with IBM by an unsupervised hierarchical analysis using clinical variables.

Background: The predominance of dysphagia as well as the infrequent muscle involvement in patients with IBM caused us to question the homogeneity of the disease.

Design/Methods: Forty-five clinico-pathological defined IBM patients were included. Standard 3-T MRI examinations for the thigh or upper arms were conducted during diagnosis. The intramuscular adipose tissue (IntraMAT) of fatty infiltration on T1-weighted MR images and intramuscular edema-like changes (IntraMEC) on STIR images were evaluated.

Results: The unsupervised hierarchical analysis showed three clusters within the patients. One subgroup (n = 18; proximal arm type) corresponded to patients with higher IntraMAT content of proximal arm muscles; supraspinatus (32.7 ± 4.3%, $p < 0.01$), deltoid (28.5 ± 4.4%, $p < 0.01$), infraspinatus (28.6 ± 3.9%, $p < 0.001$), subscapularis (37.4 ± 4.7%, $p < 0.01$), biceps (31.0 ± 3.5%, $p < 0.001$), and triceps (47.8 ± 5.1%, $p < 0.001$). The second subgroup (n = 11; upper leg type) corresponded to patients involving IntraMAT content mainly in quadriceps muscles. The third subgroup (n = 16; dysphagic type) corresponded to patients with dysphagia having cricopharyngeal bar (100%, $p < 0.001$), high SDQ scores (16.8 ± 2.3, $p < 0.001$), less IntraMAT content of rectus femoris (1.4 ± 0.7%, $p < 0.01$), vastus lateralis (23.5 ± 6.6%, $p < 0.05$), vastus intermedius (13.9 ± 4.7%, $p < 0.05$), vastus medialis

(9.5 ± 3.7%, p < 0.01), supraspinatus (12.4 ± 3.5%, p < 0.01), deltoid (5.5 ± 1.4%, p < 0.001), infraspinatus (7.6 ± 2.1%, p < 0.001), subscapularis (11.6 ± 3.9%, p < 0.01), biceps (6.6 ± 1.8%, p < 0.001), and triceps (13.1 ± 3.0%, p < 0.001).

Conclusions: This study indicates the clinical subsets of IBM to expand the knowledge of the heterogeneity of the patients.

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