Clinical Subsets of Inclusion Body Myositis (P9-8.004)

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.

**Disclosure:** Dr. Taira has nothing to disclose. Dr. Mori-Yoshimura has nothing to disclose. Dr. Yamamoto has nothing to disclose. Yasushi Oya has nothing to disclose. The institution of Dr. Nishino has received research support from AMED. The institution of Dr. Takahashi has received research support from Nihon Medi-Physics Co. Ltd. The institution of Dr. Takahashi has received research support from Takeda Pharmaceutical Company Limited.