Thrombocytosis as a prognostic factor in polymyalgia rheumatica: Characteristics determined from cluster analysis

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Abstract

Aims: This study aimed to identify the clinical subgroups of polymyalgia rheumatica (PMR) using cluster analysis and compare the outcomes among the identified subgroups.

Methods: We enrolled patients with PMR who were diagnosed at Okayama University Hospital between 2006 and 2017, met the 2012 European League Against Rheumatism/American College of Rheumatology provisional classification criteria for PMR, and were treated with glucocorticoids. Hierarchical cluster analysis using variables selected by principal component analysis was performed to identify the clusters. Subsequently, the outcomes among the identified clusters were compared in the study. The primary outcome was treatment response at 1 month after commencement of treatments. The secondary outcome was refractory clinical course, which was defined as the requirement of additional treatments and/or relapse during a 2-year observational period.

Results: A total of 61 consecutive patients with PMR were enrolled in the study. Their mean age was 71 years, and 67% were female. Hierarchical cluster analysis revealed three distinct subgroups: cluster 1 (n = 14) was characterized by patients with thrombocytosis (all patients showed a platelet count of >45 × 10⁴/µL), cluster 2 (n = 38), by patients without peripheral arthritis, and cluster 3 (n = 9), by patients with peripheral arthritis. The patients in cluster 1 achieved treatment response less frequently than those in cluster 2 (14% vs. 47%, p = 0.030). Refractory cases were more frequent in cluster 1 than in cluster 2; however, no significant difference was noted (71% vs. 42%, p = 0.06).

Conclusions: Thrombocytosis could predict the clinical course in patients with PMR.

Keywords: polymyalgia rheumatica, cluster analysis, prognostic factors, thrombocytosis, peripheral arthritis.