



## **INDUCTION THERAPY WITH ORAL GLUCOCORTICOID, PULSE METHYLPREDNISOLONE OR PULSE METHYLPREDNISOLONE PLUS INTRAVENOUS IMMUNOGLOBULIN IN PATIENTS WITH SEVERE DERMATOMYOSITIS, POLYMYOSITIS AND ANTI-SYNTHEASE SYNDROME**

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### **BACKGROUND**

Optimal treatment for systemic autoimmune myopathies (SAMs ) remains controversial. The aim of this study was to evaluate the outcomes of three different induction therapies among patients with severe SAMs.

### **MATERIALS AND METHODS**

This retrospective single-center cohort study included consecutive adult patients with dermatomyositis, polymyositis and anti-synthetase syndrome with severe manifestations (dysphagia, bedridden muscle weakness, dyspnea secondary to interstitial lung disease, vasculitis or cutaneous rash >30% of body surface area) from 2000 to 2017. Exclusion criteria: overlap syndromes, cancer induced myositis, follow-up <6 months not caused by death. Three main outcomes were assessed: complete clinical response [1], glucocorticoid withdrawal and mortality. Three different induction therapies were compared: oral glucocorticoid (group 1), pulse methylprednisolone (group 2) and pulse methylprednisolone plus intravenous immunoglobulin (IVIg) (group 3). Cox proportional hazards modeling and Kaplan-Meier analysis were applied to determine the differences between treatment groups.

### **RESULTS**

132 out of 322 patients were included in the study. Group 1, group 2 and group 3 had 48, 27 and 57 patients, respectively. The following characteristics did not differ between the groups: age at diagnosis ( $43.0 \pm 15.6$  years,  $P=0.135$ ), sex (102 female, 77.3%,  $P=0.233$ ), and type of SAMs - 77 had dermatomyositis (58.3%,  $P=0.402$ ), 29 had anti-synthetase syndrome (22%,  $P=0.144$ ) and 26 had polymyositis (19.7%,  $P=0.127$ ). Complete clinical response was achieved in 38 (79.2%) patients of group 1, 24 (88.9%) patients of group 2 and 46 (80.7%) patients of group 3 ( $P=0.554$ ). Only 26 (54.2%) patients in group 1 reached glucocorticoid withdrawal, compared to 24 (88.9%) patients in group 2 and 41 (71.9%) patients in group 3 ( $P=0.006$ ). Mortality was not statistically different between groups: 12 (25%) patients died in group 1, compared to 2 (7.4%) patients in group 2 and 7 (12.3%) patients in group 3 ( $P=0.083$ ). In multivariate Cox regression, treatment group 2 and treatment group 3 had a hazard ratio of 2.26 (95% CI 1.19-4.29) and 2.36 (1.34-4.17) for glucocorticoid withdrawal, respectively; no association was found between the three different induction therapies and complete clinical response or mortality. Kaplan-Meier analysis of glucocorticoid withdrawal is shown in figure 1.

### **CONCLUSION**

Induction therapy with pulse methylprednisolone alone or with IVIg is associated with an increased hazard ratio of glucocorticoid withdrawal in patients with severe SAMs. Complete and early corticoid suspension is a major outcome to be sought in order to diminish long term complications in patients with SAMs.

### **References:**

1. Oddis et al. Arthritis Rheum, 2005.