ABERRANT VISTA EXPRESSION ON CD45RA+CD25DIM TH-CELLS IN GIANT CELL ARTERITIS

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Background: A broad naïve Th-cell repertoire is needed to face novel antigenic challenges and mounting an optimal immune response. 1, 2 The replenishment of naïve T-cells is severely affected by thymic involution with age. 3 In the past, our group provided new insight into the homeostasis of human Th-cells, identifying CD45RA*CD25dim-Th-cells as a subset of post-thymically expanded naïve Th-cells in healthy aged individuals. 4 Immune homeostasis of naïve Th-cells is especially important to understand defective immune responses in age-related immune disorders such as Giant Cell Arteritis (GCA). Recently, a loss of immunohistopathological features has been implicated in GCA. 5, 6 The possible contribution of immune checkpoint pathways to the dysregulation of Th-cells, especially in CD45RA*CD25dim-Th-cells in GCA has not yet been studied.

Objectives: In this study, we aimed to investigate the expression of different immune checkpoint molecules on circulating CD45RA*CD25dim-Th-cells of GCA-patients and compare it with matched healthy controls (HCs).

Methods: In a cross-sectional study, fresh blood samples were obtained from 33 GCA-patients with/without immunosuppressive treatment (glucocorticoids) and 12 sex/age-matched HCs. The frequency of the expression of different immune checkpoints including CD28, Cytotoxic T-Lymphocyte-associated antigen-4 (CTLA-4), Programmed death-1 (PD-1), and V-domain Ig suppressor of T cell activation (VISTA) were determined on CD45RA*CD25dim-Th-cells of GCA-patients and HCs by flow cytometry.

Results: Proportion of circulating CD45RA*CD25dim-Th-cells in GCA-patients was not different when compared to HCs, whereas significant increase in these cells was observed only in treated GCA-patients when compared to HCs. The proportion of CD28, CTLA-4 and PD-1 expression on CD45RA*CD25dim-Th-cells did not differ between GCA-patients and HCs. Interestingly, proportion of VISTA expression on these cells was significantly decreased in GCA-patients. Furthermore, decreased frequency of VISTA expression was seen in both untreated and treated patients.

Conclusions: In GCA-patients (untreated and treated), lower frequencies of VISTA expression on CD45RA*CD25dim-Th-cells were noted. Decreased VISTA expression in GCA-patients could play a role in the regulation of Th-cell activation/inhibition. The functional consequences of immune checkpoint modulation within particular subsets requires further investigation.

REFERENCES:

Disclosure of Interest: None declared

EVOLUTION OF THE VASCULAR INVOLVEMENT OBJECTIFIED BY PET/CT IN PATIENTS WITH GIANT CELL ARTERITIS TREATED WITH TOCILIZUMAB


Background: Giant cell arteritis (GCA) is a large-vessel vasculitis which can involve the aorta and/or its major branches. Tocilizumab (TCZ) seems to be effective in giant cell arteritis (GCA). 1, 2, 3 Objetives: Our aim was to assess if the clinical and analytical improvement yielded in patients with GCA treated with TCZ is accompanied by a reduction of the vascular inflammation evaluated by PET/CT.

Methods: Study of 36 patients who had a baseline and follow-up PET/CT from a multicenter series of 34 patients with GCA in treatment with TCZ. The evolution of the vascular involvement objectified by PET/CT was assessed. In addition clinical, analytical improvement (acute phase reactants) and the reduction of corticosteroid dose was studied.

Results: The 36 patients (28 women and 8 men) had an mean age of 69.8±3.66 years. After TCZ onset, a rapid and maintained clinical improvement was observed (table 1). In addition, during the first twelve months of follow-up, the reactive protein decreased from 2.4 [0.9–6.8] to 1.0 [0.0–0.5] mg/dl and the erythrocYTE sedimentation rate from 41.5 [16.7–58.5] to 42 [2–12.5] mm/1 st hour. On the other hand, the levels of haemoglobin experienced an increase from 12.3 [11.3–13.0] to 13.3 [10.3–13.9] g/dL. The median dose of prednisone decreased from 41.5 [16.7–58.5] to 4 [2–12.5] mg/d. However, the decrease in F18-fluorodeoxyglucose uptake in the PET/CT study was not as evident.