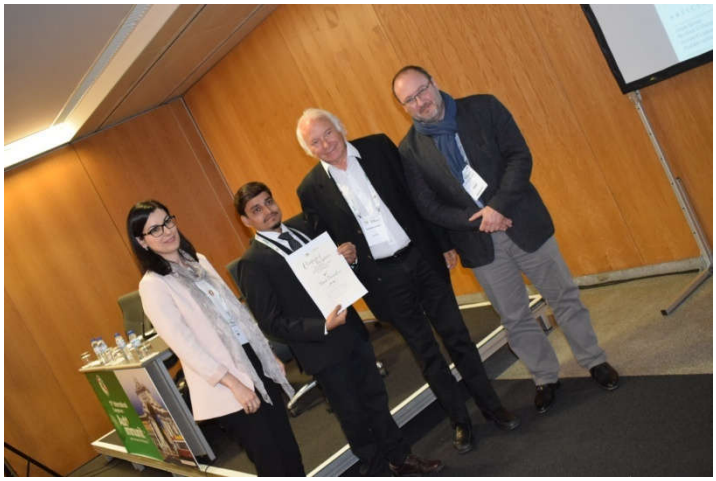
CONGRATULATIONS to Dr Mitesh Dwivedi for receiving "RECOGNITION FOR OUTSTANDING CONTRIBUTION TO THE FIELD OF AUTOIMMUNITY" and delivering a talk on “DEREGULATION OF REGULATORY T CELLS: COULD BE AN ANSWER FOR AUTOIMMUNITY IN VITILIGO PATHOGENESIS” in "11th International Congress on Autoimmunity, Portugal held during 16 May, 2018 to 20 May, 2018)".




DEREGULATION OF REGULATORY T CELLS
COULD BE AN ANSWER FOR AUTOIMMUNITY IN
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11th International
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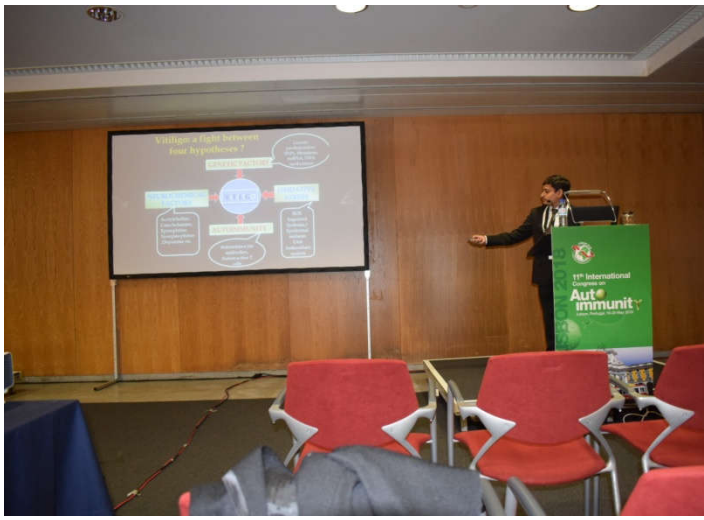
Vitiligo: a fight between
four hypotheses !
GENETIC FACTORS
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SCIENTIFIC PROGRAMME

PL54 PARALLEL SESSION
PEARLS IN AUTOIMMUNITY (MAI AWARD CANDIDATES) NO. 2

19-May-2018 16:30 18:30

Abstract:

DEREGULATION OF REGULATORY T CELLS: COULD BE AN ANSWER FOR AUTOIMMUNITY IN VITILIGO PATHOGENESIS

Vitiligo is a common skin disorder characterized by the acquired loss of constitutional pigmentation manifesting as white macules and patches caused by loss of functional epidermal melanocytes. The exact etiology of vitiligo remains obscure, but autoimmunity has been strongly implicated in the development of disease (Figure 1), especially in generalized vitiligo (GV). Regulatory T (Treg) cells play a key role in maintaining peripheral tolerance in vivo through the active suppression of self-reactive T cell activation and expansion, and dysfunction or deficiency of Tregs may result into autoimmune diseases. The T-cell subsets in vitiligo patients including Tregs were evaluated with reference to their effect on disease onset and progression (Dwivedi et al. 2013). The dramatic increase in CD8+ T-cell number and significant decrease in Tregs number in circulation of GV patients, in addition to significant decrease in FoxP3 expression in the CD4+CD25hi Treg cells, suggest that reduced numbers and impaired function of Tregs fail to control the widespread activation of CD8+ T-cells, which may lead to the destruction of melanocytes in GV. Moreover, the decreased Tregs and CD4+/CD8+ ratio correlate with disease onset and progression in GV patients. Treg cell percentage and counts were significantly decreased in active GV patients compared with stable GV patients. The early age group of patients showed lower levels of Treg cells as compared to the late onset groups. Interestingly, female patients showed significant low expression of FoxP3 in CD4+CD25hi Treg cells as compared to male patients suggesting that females may have increased susceptibility towards autoimmunity. This knowledge further confirms the involvement of cellular immunity in development of GV, which is impaired in these patients and may aid in future development of effective immunotherapy for GV.

Reference:
Dwivedi M, Laddha NC, Arora P, Marfatia YS and Begum R (2013). Decreased regulatory T-Cells and CD4+/CD8+ ratio correlate with disease onset and progression in patients with generalized vitiligo. Pigment Cell Melanoma Res. 26(4):586-591.