ABSTRACT BOOK



A new ERA for global Dermatology 10 - 15 JUNE 2019 MILAN, ITALY

VASCULAR DISEASE, VASCULITIS

## NEUTROPHIL EXTRACELLULAR TRAPS ARE PRESENT IN THE EARLY PHASE OF IMMUNE COMPLEX-MEDIATED CUTANEOUS SMALL VESSEL VASCULITIS AND CORRELATE WITH THE SEVERITY OF VESSEL DAMAGE.

C Bergqvist<sup>(1)</sup> - R Safi<sup>(2)</sup> - O Abbas<sup>(1)</sup> - Ag Kibbi<sup>(1)</sup> - D Nassar<sup>(1)</sup>

American University Of Beirut Medical Center, Dermatology, Beirut, Lebanon<sup>(1)</sup> - American University Of Beirut Medical Center, Department Of Anatomy, Cell Biology And Physiological Science,, Beirut, Lebanon<sup>(2)</sup>

Introduction: Cutaneous small vessel vasculitis (SVV) are broadly divided based on the pathogenesis, whether it involves immune complex (IC) deposition or antibody mediated cytotoxicity (ANCA associated vasculitis). Hypersensitivity vasculitis (HV), IgA vasculitis, urticarial vasculitis (UV) and erythema elevatum diutinum (EED) are SVV that all share IC deposition as a central role in their pathogenesis. Cutaneous polyarteritis nodosa (PAN) is predominantly a medium-sized vessel vasculitis. Its precise etiology remains unknown; however, IC deposition plays a role in its pathogenesis. Neutrophil extracellular trap (NET) formation is a recently described mechanism by which neutrophils externalize a fibrous network made of web-like chromatin strands studded with antimicrobial peptides and histones that has recently been implicated in ANCA-associated vasculitis and Behçet's disease associated vasculitis.

Objective: The purpose of this study was to detect the presence of NETs, in the different immune-complex mediated cutaneous small and medium vessel vasculitides.

Materials and Methods: We retrospectively analyzed patients with histology-proven cutaneous small and medium vessel vasculitis. The presence of NETs in cutaneous biopsies was examined using immunolabeling of NETs specific associated proteins.

Results: NETs were detected in HV, IgA vasculitis, urticarial vasculitis and erythema elevatum diutinum but not in PAN lesions. NETs were found mainly around the inflamed vessels. NETs formation was highest upon early onset of the vasculitis and decreased progressively. NETs were not correlated with systemic involvement nor etiology; however, NETs were strongly correlated with the histological severity of vasculitis and the production of reactive oxygen species. Both HV and IgA vasculitis were found to form significantly more NETs than UV (p=0.003 and p=0.012 respectively), independently of the vasculitis score











A new ERA for global Dermatology 10 - 15 JUNE 2019 MILAN, ITALY

and time of biopsy since onset of the vasculitis.

Conclusion: Our results provide evidence on the implication of NETosis in the pathophysiology of immune complex mediated small vessel vasculitis.



24<sup>™</sup> WORLD CONGRESS OF DERMATOLOGY MILAN 2019



International League of Dermatological Societies Skin Health for the World

