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Updates on the hidradenitis suppurativa from the USA

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dampened by bacteriostatic inhibition of DNA-dependent RNA polymerase. Such an anti-inflammatory effect has already been described in the literature for other inflammatory diseases. These studies demonstrated the lowering of various proinflammatory cytokines after rifampicin treatment [4,5].

Objectives/Methods: To further clarify the mechanism of anti-inflammatory effects of rifampicin in HS, *ex vivo* explants of lesional HS were treated with rifampicin. We then investigated the effect of rifampicin on cytokine production and the expression of Toll-like receptor 2 (TLR2).

Results: Analysis of cell culture medium of rifampicin treated HS explants revealed an anti-inflammatory effect of rifampicin by inhibiting interleukin (IL)-1 β , IL-6, IL-8, IL-10, and tumor necrosis factor (TNF)- α production. Immunohistochemistry of the rifampicin-treated explants suggested a tendency to reduce the expression of TLR2.

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S2-33 | The anti-inflammatory effect of adalimumab assessed using the hidradenitis suppurativa 3D-SeboSkin model

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Background: Hidradenitis suppurativa (HS) is a chronic, recurrent skin disease of the hair follicle [1]. We have developed an *ex vivo* HS 3D-SeboSkin model to study the underlying pathophysiology of the disease and test potential therapeutic compounds in a preclinical setting [2–4]. Adalimumab, a tumor necrosis factor- α inhibitor, is approved for treatment of moderate to severe HS.

Objectives: To investigate the anti-inflammatory effect of Adalimumab in the HS 3D-SeboSkin model and evaluate the regulation of HS biomarkers under Adalimumab treatment.

Methods: Lesional skin explants from 4 HS patients were applied in the HS 3D-SeboSkin model system cultured for 3 days [3]. The study was approved by the Ethics Committee of the Brandenburg Medical School. Skin explants were divided into control and Adalimumab (30 μ g/ml)-treated specimens. Subsequently, a series of cytokines were measured in culture supernatants using a human cytokine antibody array. Staining analysis was performed by Image J. GraphPad 9 was used for data analysis. All results are presented as mean \pm SEM. For statistical significance t-test was used and differences were considered significant at $P < 0.05$.

Results: The production of cytokines IL-1 α ($P < 0.01$), IFN- γ 1 ($P < 0.05$), TNF- α ($P < 0.01$), TNF- β ($P < 0.001$), MCP-2 ($P < 0.05$), RANTES ($P < 0.01$) and TGF- β ($P < 0.01$) was significantly downregulated in the Adalimumab-treated HS 3D-SeboSkin model compare to the control group.

Conclusion: These data corroborate that Adalimumab inhibits TNF- α and several other inflammatory cytokines, which are upregulated in HS skin. Moreover, the adequacy of the human HS 3D-SeboSkin model for preclinical HS research was further demonstrated.

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S3 | Hidradenitis Suppurativa Around the World (Selected International Contributions)

S3-34 | Updates on the hidradenitis suppurativa from the USA

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Background: There has been so much progress in hidradenitis suppurativa across the world.

Objectives: The focus of this talk will be the American contributions to this effort but very few of these efforts involve any one nation.

Methods/Results: Updates from American institutions will be provided with a focus on immunology, the microbiome, genetics, outcome measures, antibiotics, biologics, lasers, surgery multidisciplinary clinics, big data and support groups. Updates about the efforts of the American HS foundation will also be discussed.

Conclusion: There is much to celebrate about the advances in HS across the world. North America and the United

States are doing their part to reduce the suffering of our patients and their families. However, no one country can help make the strides that are needed. Our American groups recognize that we are partners with the EHSF and countries across the world in this effort.

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S3-35 | Hidradenitis suppurativa in East South America

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Background: East South America comprises 3 countries: Brazil, the biggest one, Uruguay and Argentine. Unfortunately, there is no available data about hidradenitis suppurativa (HS) in the latter 2 countries.

Objectives/Methods: A Brazilian scenario of HS will be presented.

Results: Epidemiological characteristics of HS in Brazil are similar to those observed around the world. The prevalence is 0.41%, probably underestimated and the reasons are: 1) sub- and late (70% Hurley II and III) diagnosis; 2) patients seek medical care in emergency services and 3) young doctors, especially general practitioners, are unable to recognize HS. It predominates in women; mean age 40.4 (SD 18.4); localization and lesion types, associated dermatoses and comorbidities (obesity 51%; anxiety 40%) are also similar. Adalimumab prescription showed a 100% increase in last year, predominantly in Sao Paulo Estate. It is the only approved biologic for HS. There are Brazilian protocols for diagnosis and management as well as a consensus for medical treatment from Brazilian Society of Dermatology (2019), both similar to current publications. For evaluation of lesion depth and vascularization, ultrasound with doppler is frequently performed. Nowadays, the most common management approach is to start with medical treatment (topical or oral antibiotics, acitretin, metformin, adalimumab) and after the disease control, wide and deep surgery is indicated, followed by partial suture, flap, graft or second intention healing. We highlight a dressing suggestion with sterile cotton over the wound, which is highly hemostatic and accelerates the healing. Despite the bad scars, it is possible to cure HS that causes so much suffering.

Conclusion: Epidemiological characteristics, diagnosis and management protocols of HS in Brazil are similar to those observed around the world.

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S3-36 | Hidradenitis suppurativa in East South America

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Background/Objectives: This presentation will review the main contributions in the hidradenitis suppurativa (HS) field originated from West South America in the last two years, mainly focusing on Chilean, Peruvian, and Colombian studies [1,2].

Methods/Results: This analysis will show briefly the role of ultrasound imaging in the early diagnosis and management of HS [3], the presence of HS in social media [4], a meta-analysis on the presence of metabolic syndrome in HS [5], and a study on the prevalence of HS [2].

Conclusion: Contributions from West South America can support a better diagnosis, understanding and management of HS.

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