TEN YEARS OF PSORIATIC DISEASE RESEARCH

Ulrich Mrowietz[1], Matthias Augustin[2], Swen Malte John[3], in collaboration with IFPA

[1]Department of Dermatology, Venereology and Allergology, Psoriasis-Center, University Medical Center Schleswig-Holstein, Kiel, Germany
[2]Institute for Health Services Research in Dermatology and Nursing (IVDP), University Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany
[3]Department of Dermatology, Environmental Medicine, Health Theory, Institute for Interdisciplinary Dermatological Prevention and Rehabilitation (iDerm), University of Osnabrueck, Osnabrueck, Germany

Closing the knowledge gap

Since its last discussion at the WHA more than 10 years ago the medical and scientific understanding of psoriasis has changed markedly. As a consequence, the term “psoriatic disease” was introduced to highlight the systemic nature of this chronic inflammatory noncommunicable disease for which there is no cure[1]. Major progress has been made to define the disease domains skin, vascular, and bone/joint inflammation within the framework of psoriatic disease. A breakthrough in the understanding of psoriatic disease was demonstrating the link between the disease domains with associated diseases on the basis of pathophysiologic principles at least in part being attributed to a genetic basis. The identification of independent risk factors and the importance of trigger factors inducing or aggravating psoriatic disease following these common pathways enabled the conceptualization of management procedures to effectively treat psoriatic disease and to aim for a disease modification. Moreover, studies to understand the prevalence of the disease, to understand better the size and distribution of the problem are ongoing, closing the gaps in data highlighted in the 2016 WHO Global Report on Psoriasis[2].

Pathophysiology of psoriatic disease: what we know now

Immune-mediated inflammation initiated by antigen presenting dendritic cells through signaling by interleukin (IL) 23 results in activation of T cells producing IL-17 family members affecting resident cells such as keratinocytes of the skin, endothelial cells of the vasculature, and osteoblast/osteoclasts at bone/joint sites (enthesis)[3]. This scenario of signature cells and cytokines is amplified by other inflammatory processes leading to a vicious cycle and deterioration of psoriatic disease. The accumulating evidence on the strong inflammatory component in psoriatic disease reinforce the definition of psoriatic disease as a serious noncommunicable disease.

IFPA

More than just skin

Comorbidity is negatively impacted by the psoriatic disease inflammation pattern. Associated coronary artery disease with coronary microvascular dysfunction and reduced microvascular flow reserve increases cardiovascular disorders and the rate of myocardial infarction[4]. Depression and depressive behavior are present in 1 out of 5 people with psoriatic disease and are related to metabolic inflammation in the central nervous system[5]. Systemic inflammation due to obesity has been shown to be the most important risk factor for psoriatic disease. Large cohort epidemiologic studies showed that the risk of getting psoriatic disease is reduced by almost 50% in a population undergoing bariatric surgery with significant weight loss in comparison to a population control group with obesity[6,7]. As a large proportion of people with psoriatic disease has obesity, related comorbidity such as hypertension, diabetes mellitus and dyslipidemia bring an additional burden.

Leaps forward in improving the lives of people with psoriatic disease

New drugs developed according to pathophysiological knowledge gained in the past 10 years led to a major advancement of effective and safe treatment options not only for the skin lesions but also for the other two domains vascular and bone/joint inflammation with potential positive impact on comorbidity. Early and effective treatment of psoriatic disease using these drugs may enable to positively modify the future disease course for the first time[8]. However, access to care using these drugs that enable a holistic treatment of psoriatic disease are still not available in many countries worldwide.

This means that many people with psoriatic disease still suffer from stigmatization heavily impacting their wellbeing[9]. Additional burden due to a lack of appropriate psoriatic disease management impairs health-related quality of life not only of affected people but also of their partners and family members.

Today, psoriatic disease in its complexity and with numerous comorbidities is more important than ever in people-centered health care and requires further action to be taken.

References

1 Mrowietz U, Lauffer F, Sondermann W, Gerdes S, Sewerin P. Psoriasis as a Systemic Disease. Dtsch Arztebl Int. 2024 Jun 28 (in press)

2 Global Report on Psoriasis

3 Griffiths CEM, Armstrong AW, Gudjonsson JE, Barker JNWN. Psoriasis. Lancet. 2021 Apr 3;397(10281):1301-1315

4 Zhou W, Abdelrahman KM, Dey AK, Reddy A, Uceda DE, Lateef SS, Elnabawi YA, Anzenberg P, Al Najafi M, Rodante JA, Keel A, Ortiz J, Teague HL, Erb-Alvarez J, Singh D, Joshi AA, Playford MP, Chen MY, Gelfand JM, Remaley AT, Bluemke DA, Mehta NN. Association Among Noncalcified Coronary Burden, Fractional Flow Reserve, and Myocardial Injury in Psoriasis. J Am Heart Assoc. 2020 Nov 17;9(22):e017417

5 Duvetorp A, Mrowietz U, Nilsson M, Seifert O. Sex and Age Influence the Associated Risk of Depression in Patients with Psoriasis: A Retrospective Population Study Based on Diagnosis and Drug-Use. Dermatology. 2021;237(4):595-602

6 Egeberg A, Sørensen JA, Gislason GH, Knop FK, Skov L. Incidence and Prognosis of Psoriasis and Psoriatic Arthritis in Patients Undergoing Bariatric Surgery. JAMA Surg. 2017 Apr 1;152(4):344-349.

7 Maglio C, Peltonen M, Rudin A, Carlsson LMS. Bariatric Surgery and the Incidence of Psoriasis and Psoriatic Arthritis in the Swedish Obese Subjects Study. Obesity (Silver Spring). 2017 Dec;25(12):2068-2073

8 Schäkel K, Reich K, Asadullah K, Pinter A, Jullien D, Weisenseel P, Paul C, Gomez M, Wegner S, Personke Y, Kreimendahl F, Chen Y, Angsana J, Leung MWL, Eyerich K. Early disease intervention with guselkumab in psoriasis leads to a higher rate of stable complete skin clearance ('clinical super response'): Week 28 results from the ongoing phase IIIb randomized, double-blind, parallel-group, GUIDE study. J Eur Acad Dermatol Venereol. 2023 Oct;37(10):2016-2027

9 Sommer R, Topp J, Mrowietz U, Zander N, Augustin M Perception and determinants of stigmatization of people with psoriasis in the German population. J Eur Acad Dermatol Venereol. 2020 Dec;34(12):2846-2855

10