

EDITORIAL

Tackling key immunological and immuno-dermatological pathways and their link to treatment options

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Immunological pathways have been extensively studied over the past 30 years as key processes of pathogenesis and outcome in several immunological and dermatological diseases and linked to new therapeutic treatment options. Thus, the current special issue presents reviews, original articles and case presentations on immunology and immuno-dermatology, in order to partially elucidate those pathways and processes.

The main physiological and/or pathological conditions covered in this special issue were immunological phenomena involved in aging, skin immunology, psoriasis, irritable bowel syndrome, hidradenitis suppurativa and pyoderma gangrenosum, bacillary angiomatosis, systemic sclerosis, angioedema, HPV-related penile cancer, naevi and melanoma, metabolic syndrome, urinary tract infections and phenomena associated with hemodialysis.

The aging process comprises a complex network of cells and molecules that are up- or downregulated in order to pursue tissue destruction and regeneration. The review by Lupu *et al* (1) focused on updating data from the literature regarding the use of hydrolyzed collagen for skin care and aging. Maranduca *et al* (2) discussed the understanding of the skin's vast capacity to host and influence immunological processes.

Irritable bowel syndrome (IBS) is one the most frequent and common functional gastrointestinal disorders that has a multifactorial etio-pathogenesis. In their original study, Chira *et al* (3) aimed to evaluate two biomarkers of different putative pathways involved in the pathogenesis of IBS: Monocyte chemotactic protein-1 (MCP-1) and nitrotyrosine, in order to establish their role as potential biomarkers. They demon-

strated that nitrotyrosine levels were significantly lower from a statistical point of view, whereas MCP-1 levels were higher in patients with IBS with metabolic syndrome versus IBS patients without metabolic syndrome. This suggests that multiple factors are involved in the pathogenesis of IBS, particularly diet and its association with metabolic syndrome; this also suggests that MCP-1 may be a marker of subclinical atherosclerosis. In addition, low-grade inflammation that may be related to oxidative stress may play an underestimated role in the pathogenesis of IBS.

In their review, Ungureanu *et al* (4) aimed to assess cutaneous lesions in IBS. Thus, they divided the lesions into 4 categories: i) Disease-specific lesions that exhibit histopathological findings similar to those of underlying gastrointestinal disease; ii) reactive lesions which are inflammatory lesions that share a common pathogenic mechanism, but do not share the same pathology with gastrointestinal disease; iii) associated conditions are more frequently observed in the context of IBD, without sharing pathogenetic mechanisms or histopathological findings with the underlying disease; and iv) drug-related skin reactions.

Hidradenitis suppurativa and pyoderma gangrenosum are rare disorders that can be observed as either isolated cases, or even more rarely, as part of different autoinflammatory syndromes. Turcu *et al* (5) presented a case report entitled 'Pyoderma gangrenosum and suppurative hidradenitis association, overlap or spectrum of the same disease? Case report and discussion' and briefly reviewed the literature regarding this disease.

Lately, much research has focused on the presence of biomarkers involved in both the pathogenesis of psoriasis and its comorbidities. The identification of these biomarkers plays a crucial role in establishing diagnosis and prognosis, in understanding the physiopathological mechanisms and in determining the therapeutic response. The aim of the review by Grechin *et al* (6) was to emphasize the alterations of inflammatory markers in response to systemic therapies in psoriasis.

In their review entitled, 'Psoriatic arthritis: A permanent new challenge for dermatologists (Review)' Dinu *et al* (7) focused on recognizing psoriatic arthritis in patients with

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cutaneous psoriasis, in differentiating it from other possible arthritis cases, thus having the possibility to improve patient prognosis by prompt intervention and through the collaboration with the rheumatologist.

Ardeleanu *et al* (8) presented a case report and literature review regarding the use of a 308 nm excimer laser for the treatment of mild, moderate and even severe, but localized psoriasis plaques and its important role in the treatment management of psoriasis.

Balaban *et al* (9) presented a case of a Caucasian patient, who developed multiple vascular papules and nodules on the face, following a severe trauma, and which healed following adequate antibiotic therapy with oral clarithromycin, aiming to outline the importance of trauma in bacillary angiomatosis.

Bobeică *et al* (10) published an original article regarding epidemiological data in a group of 22 patients with digital ulcers in systemic sclerosis.

In their original article entitled, 'Acquired angioedema induced by angiotensin-converting enzyme inhibitors - experience of a hospital-based allergy center', Leru *et al* (11) evaluated the clinical pattern, risk factors and general management of ACEI-induced angioedema in a cohort of patients addressed for allergist evaluation in a university hospital from Romania, over a period of 32 months. They found that ACEI-induced angioedema (ACEIs-AE) represented more than half of the total number of patients addressed for angioedema without urticaria, with a variable clinical and time-pattern.

Stanescu *et al* (12) focused their interest on identifying dermatological diseases from the perspective of suicidal behavior in order to intervene early with specific treatments or to prevent suicide.

In their review article entitled, 'Use of imaging techniques for melanocytic naevi and basal cell carcinoma in integrative analysis (Review)', Grăjdeanu *et al* (13) discussed the current developments in the field of melanocytic lesions, such as naevi and basal cell carcinoma (BCC) imaging techniques. Their aim was to collect and analyze data concerning types, indications, advantages and disadvantages of modern imaging techniques for *in vivo* skin tumor diagnosis. Sandru *et al* (14) presented a case of regressive melanoma and characterized dermoscopic features, such as 'scar-like' depigmentation that can be described as hypopigmented to pigmented macules, pink macules, linear-irregular vessels, globular vessel pattern, hyperpigmented macular remnants, blue gray 'peppered' papular remnants and white transverse bands.

A large number of risk factors has been listed for penile carcinoma, having a multifactorial etiology, HPV infection being one of the most important factors involved in its appearance. Iorga *et al* (15) outlined that of the HPV DNA-positive genital cancers, HPV-16 was the most frequently type found in males, followed by HPV-18.

Timofte *et al* (16) published an original article aiming to evaluate the contribution of traditional and uremia related risk factors to abdominal aortic calcification in predialysis patients. Their study was performed on 305 adult patients monitored at the Bucharest University Emergency Hospital for at least 6 months, reporting an increased incidence of vascular calcifications in patients with predialysis chronic kidney disease (CKD), higher in those with an advanced age, a history of cardiovascular disease, osteoporosis and declining renal function. In another

study, Timofte *et al* (17) performed a retrospective, unicentric analysis in order to evaluate the status of patients with stage 5 CKD at the time of renal replacement therapy (RRT) initiation. In their last review published in this special issue, Timofte *et al* (18) reviewed data regarding 'Infection with hepatitis C virus in hemodialysis patients: An overview of the diagnosis and prevention rules within a hemodialysis center (Review)'.

Spinu *et al* (19) published a review and meta-analysis entitled 'Botulinum toxin in low urinary tract disorders - over 30 years of practice (Review)' outlining its effects, such as the inhibition of the nerve growth factor. It was found to block the bladder sensory afferent pathway, and exert an apoptotic effect on prostate tissue and, by inhibiting substance P, to alter nociceptive pathways.

Zaha *et al* (20) published an original article on 80 patients investigating the association between the adipocyte and inflammation biomarkers, and metabolic syndrome and its components, whereas Popa *et al* (21) published an original article on 900 patients entitled 'Risk factors for adiposity in the urban population and influence on the prevalence of overweight and obesity'.

To conclude, the quality of the articles submitted to the Special Issue of 'Experimental and Therapeutic Medicine' meets the Journal's standards, as the studies included provide fundamental scientific points, thus achieving the proposed aims of the issue. The Editor would like to take this opportunity and thank all the authors for their valuable contributions.

References

1. Lupu M-A, Pircalabioru GG, Chifiriu M-C, Albuiescu R and Tanase C: Beneficial effects of food supplements based on hydrolyzed collagen for skin care (Review). *Exp Ther Med* 20: 12-17, 2020.
2. Maranduca MA, Hurjui LL, Branisteanu DC, Serban DN, Branisteanu DE, Dima N and Serban IL: Skin - a vast organ with immunological function (Review). *Exp Ther Med* 20: 18-23, 2020.
3. Chira A, Braicu C, Budisan L, Chira RI, Berindan-Neagoe I and Dumitrascu DL: Monocyte chemotactic protein-1 and nitrotyrosine in irritable bowel syndrome. *Exp Ther Med* 20: 24-30, 2020.
4. Ungureanu L, Cosgarea R, Badea MA, Vasilovici AF, Cosgarea I and Șenilă SC: Cutaneous manifestations in inflammatory bowel disease (Review). *Exp Ther Med* 20: 31-37, 2020.
5. Turcu G, Nedelcu RI, Nedelcu IT, Hodorogea A, Balaban M, Brinzea A, Nichita L, Popp CG, Zurac SA and Andrei RT: Pyoderma gangrenosum and suppurative hidradenitis association, overlap or spectrum of the same disease? Case report and discussion. *Exp Ther Med* 20: 38-41, 2020.
6. Grechin C, Solovăstru LG, Văță D, Pătrașcu AI, Grăjdeanu AI and Porumb-Andrese E: Inflammatory marker alteration in response to systemic therapies in psoriasis. *Exp Ther Med* 20: 42-46, 2020.
7. Dinu A, Bucur S, Olteanu R, Constantin T, Raducan A, Baetu M and Constantin M-M: Psoriatic arthritis: A permanent new challenge for dermatologists (Review). *Exp Ther Med* 20: 47-51, 2020.
8. Ardeleanu V, Radaschin DS and Tatu AL: Excimer laser for psoriasis treatment: A case report and short review. *Exp Ther Med* 20: 52-55, 2020.
9. Balaban M, Nedelcu RI, Balmes G, Todorovic TA, Brinzea A, Nichita L, Popp CG, Andrei RT, Zurac SA, Ion DA and Turcu G: Bacillary angiomatosis triggered by severe trauma in a healthy Caucasian patient: A case report. *Exp Ther Med* 20: 56-60, 2020.
10. Bobeică C, Tatu AL, Crăescu M and Solovăstru L: Dynamics of digital ulcers in systemic sclerosis. *Exp Ther Med* 20: 61-67, 2020.
11. Leru PM, Anton VF, Bocsan C, Muntean A and Boda D: Acquired angioedema induced by angiotensin-converting enzyme inhibitors - experience of a hospital-based allergy center. *Exp Ther Med* 20: 68-72, 2020.

12. Stanescu AMA, Totan A, Mircescu D, Diaconescu S, Bratu OG, Fekete L, Fekete GL, Boda D and Diaconu CC: Assessment of suicidal behavior in dermatology (Review). *Exp Ther Med* 20: 73-77, 2020.
13. Grajdeanu I-A, Vata D, Statescu L, Popescu IA, Porumb-Andrese E, Patrascu AI, Stincanu A, Taranu T, Crisan M and Solovastru LG: Use of imaging techniques for melanocytic naevi and basal cell carcinoma in integrative analysis (Review). *Exp Ther Med* 20: 78-86, 2020.
14. Sandru F, Draghici C-C, Predescu T, Constantin MM, Petca R-C, Constantin T, Petca A and Dumitraşcu MC: Regressive melanoma in a female patient: A case report. *Exp Ther Med* 20: 87-90, 2020.
15. Iorga L, Marcu RD, Diaconu CC, Stanescu AMA, Stoian AP, Mischianu DLD, Surcel M, Bungau S, Constantin T, Boda D, *et al*: Penile carcinoma and HPV infection (Review). *Exp Ther Med* 20: 91-96, 2020.
16. Timofte D, Dragoş D, Balcangiu-Stroescu A-E, Tănăsescu M-D, Bălan DG, Răducu L, Tulin A, Stiru O and Ionescu D: Abdominal aortic calcification in predialysis patients: Contribution of traditional and uremia-related risk factors. *Exp Ther Med* 20: 97-102, 2020.
17. Timofte D, Dragos D, Balcangiu-Stroescu A-E, Tanasescu M-D, Balan DG, Raducu L, Jecan C-R, Stiru O, Medrihan L and Ionescu D: Characteristics of patients at initiation of renal replacement therapy - experience of a hemodialysis center. *Exp Ther Med* 20: 103-108, 2020.
18. Timofte D, Dragos D, Balcangiu-Stroescu A-E, Tanasescu M-D, Balan DG, Avino A, Tulin A, Stiru O and Ionescu D: Infection with hepatitis C virus in hemodialysis patients: An overview of the diagnosis and prevention rules within a hemodialysis center (Review). *Exp Ther Med* 20: 109-116, 2020.
19. Spinu AD, Bratu OG, Diaconu CC, Stanescu AMA, Bungau S, Fratila O, Bohiltea R and Mischianu DLD: Botulinum toxin in low urinary tract disorders - over 30 years of practice (Review). *Exp Ther Med* 20: 117-120, 2020.
20. Zaha DC, Vesa C, Uivarosan D, Bratu O, Fratila O, Tit DM, Pantis C, Diaconu CC and Bungau S: Influence of inflammation and adipocyte biochemical markers on the components of metabolic syndrome. *Exp Ther Med* 20: 121-128, 2020.
21. Popa AR, Fratila O, Rus M, Aron RAC, Vesa CM, Pantis C, Diaconu CC, Bratu O, Bungau S and Nemeth S: Risk factors for adiposity in the urban population and influence on the prevalence of overweight and obesity. *Exp Ther Med* 20: 129-133, 2020.



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