

**Abstract N°: 320****Generalized pruritus induced by Rivaroxaban**

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**Introduction & Objectives:** Oral anticoagulant is an imperative therapy in patients with atrial fibrillation episodes to prevent stroke or pulmonary embolism events. Rivaroxaban is one of the most prescribed medications in this category. According to the product monograph, various dermatologic side effects have been reported in the literature, with pruritus being 1.8% of cases.

**Materials & Methods:** We present a case of a 65-year-old male patient with generalized pruritus without cutaneous lesions who was admitted to the Dermatology Department to investigate the systemic causes of his complaints.

**Results:** The patient's history was associated with an intense, generalized pruritus, which he was suffering from for several months. He stated that these complaints started after the Rivaroxaban administration to treat atrial fibrillation. The pruritus was never associated with hypersensitivity syndrome or angioedema. The patient claimed no known drug or food allergies. His physical examination was normal except for post-inflammatory hyperpigmentation. Otherwise, the patient underwent laboratory and imaging examinations to exclude systemic diseases as potential and serious causes of pruritus. According to the hematologist, the complete blood count revealed anemia and some alterations of leukocytes and thrombocytes, which were unrelated to any malignant hematology disorder. The renal, hepatic, thyroid and autoimmune results were within the reference range. Chest radiography, prostate, and abdominal echography found no structural abnormalities. Since we could not find any abnormality or other drug to explain the itching, we were convinced it was a consequence of the current medication. We asked the cardiologist to switch the oral anticoagulant in order to maintain a safe profile of his cardiac disease as well as to stop the itching process. After the Apixaban administration, the complaints were relieved.

**Conclusion:** In the present patient, the Naranjo Adverse Drug Reaction scored 5 points, which makes the causality of medication-induced pruritus probable. In similar conditions, we suggest a detailed personal history, including drug intake. Few reports describe the relationship between Rivaroxaban and generalized pruritus. Since the cutaneous side effects of Rivaroxaban are not well-known, we raise awareness of pruritus among dermatologists as an uncommon but possible side effect in these patients to avoid unnecessary examinations.

**Abstract N°: 844****Pruritus during pemphigus: Prevalence and predictive factors**

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**Introduction & Objectives:**

Pemphigus is an autoimmune bullous dermatosis, most often idiopathic, characterized by the development of superficial vesicles and bullae giving way to cutaneous and mucosal erosions with pain as the main functional sign, which has a significant impact on quality of life.

While pruritus is a well-documented functional sign in bullous pemphigoid, very few case reports have dealt with the occurrence of pruritus in pemphigus.

The aim of our work is to study the prevalence of pruritus in pemphigus as well as its main predictive factors.

**Materials & Methods: \*\***

Prospective study collecting patients who presented pruritus during the course of their pemphigus over a period of 2 years from January 2021 to December 2022 in the dermatology and venereology department of Casablanca. The pruritus component of the BPDAl (Bullous Pemphigoid Disease Area Index) was applied to pemphigus patients. Categorical and numerical variables were analyzed in relation to a standard pruritus VAS.

**Results:**

Thirty-seven patients were included, of whom 20 were male (54%) and 17 female (46%). Pruritus was present in 18 patients (49% of our sample), with a mean 24-hour BPDAl score of 3 (out of 10) and a mean total BPDAl Pruritus score of 11 (out of 30). Ten patients (55%) had pure cutaneous involvement, active pemphigus with a high IFI (inter-cellular substance antibody) level and a significant eosinophilic blood infiltrate. Pemphigus foliaceus was present in 33% of cases, often with significant pruritus, seborrheic pemphigus in 33%, pemphigus vulgaris in 28% and pemphigus vegetans in 6%. Histological examination of patients suffering from pruritus revealed an eosinophilic infiltrate in 72% of cases. 5 cases of induced pemphigus were found, including 2 foliaceous, 2 seborrheic and 1 vegetative. The pharmacovigilance investigation incriminated Covid-19 vaccines in 2 patients, penicillin, amlodipine and paracetamol.

Several patients (62%) had gone into remission on systemic treatment (corticosteroids, azathioprine, dapsone) in addition to having stopped the drug implicated in induced pemphigus, with a regression and then disappearance of pruritus; on the other hand, 38% had experienced at least one episode of relapse.

**Conclusion:**

Pemphigus patients with isolated skin involvement had higher BPDAl 24-hour and total pruritus scores than those with mucosal or mucocutaneous involvement. Pemphigus foliaceus caused more pruritus than pemphigus vulgaris. Induced pemphigus is often very pruritic, with significant biological and histological hypereosinophilia. Patients with elevated BPDAl had elevated IFI levels correlated with disease activity and severity. These 3 factors were therefore predictive of pruritus.

**Abstract N°: 1166****Transcriptomic analysis of Prurigo nodularis in Korean patients**Hei Sung Kim<sup>\*1</sup>, Nayan Jin<sup>1</sup>, Minah Cho<sup>1</sup>, Yoon-Seob Kim<sup>2</sup>, Sang Hyun Cho<sup>2</sup><sup>1</sup>The Catholic University of Korea Incheon St. Mary's Hospital, Dermatology, Korea, Rep. of South, <sup>2</sup>Bucheon St. Mary's Hospital, The Catholic University of Korea, Dermatology, Bucheon, Korea, Rep. of South**Introduction & Objectives:**

Prurigo nodularis (PN) is chronic inflammatory skin disease characterized by intensely pruritic nodules with a significant impairment in quality of life. However, the exact etiology of PN is largely unknown, and there have been few studies looking into the gene expression profiles of PN in Asians. The objective of this study was to elucidate the gene expression profiles of PN in Koreans.

**Materials & Methods:**

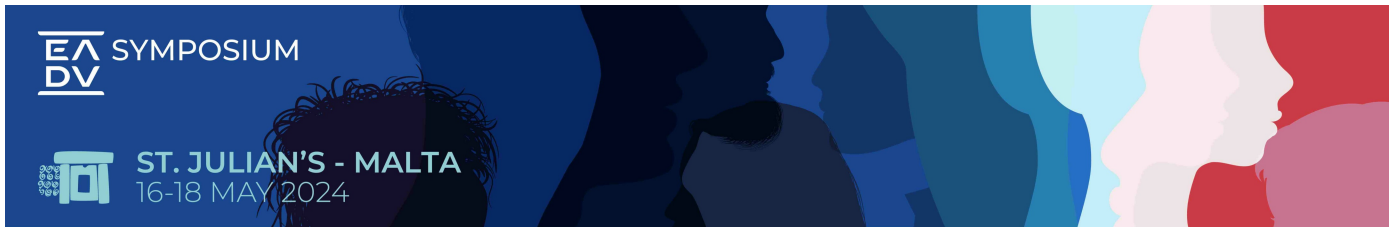
RNA sequencing was performed on both lesional and matching non-lesional skin of Korean patients with PN (n = 22) along with non-itchy control skin from healthy individuals (n = 9). Differentially expressed genes (DEGs) and pathways were analyzed.

**Results:**

We identified distinct gene expression profiles within the PN lesions ("PNL group"), and control skin from healthy individuals ("NC group") whereas the non-lesional skin from PN patients ("PNN group") showed an intermediate expression between the PNL and NC groups. Th17/22-related genes (*S100A8*, *S100A7*, *S100A9*, *SERPINB4*, and *SERPINB13*)\* were significantly enriched in the PNL group compared to the NC group. In addition, keratinization-related genes (*KRT16*, *KRT6A*, *KRT6C*, *LCE3D*, and *KRT17*) were significantly enriched in the PNL group compared to the control group. Th1/2-related genes were also upregulated in the PNL group compared to NC group but were less prominent compared to the Th17/Th22-pathway genes.

**Conclusion:**

Our findings suggest that PN is chronic inflammatory disease with systemic activation of Th17/22 and keratinization-related genes in not only in the lesional skin but also in the normal looking, non-lesional skin. Patients may derive benefit from systemic immunomodulating therapies that modulate key drivers of multiple immune pathways.



**Abstract N°: 1275**

### **Therapeutic profile of chronic prurigo**

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#### **Introduction & Objectives:**

Chronic prurigo is an uncommon chronic skin condition that primarily affects older adults and is characterized by multiple, firm, pruritic papules/nodules that are symmetrically distributed.

Several therapeutic protocols are proposed depending on the severity of pruritus and the impact that prurigo can have on the patient's quality of life.

The aim of our work is to detail the therapeutic profile of this disease in the Eastern region of Morocco.

#### **Materials & Methods:**

Monocentric retrospective study carried out at the CHU Med VI of Oujda between October 2014 and May 2022. We collated all patients followed for chronic prurigo at the dermatology department at the CHU Mohammed VI of Oujda during the period January 2015- May 2022.

#### **Results:**

We collected 27 patients. The average age was 48.21 years. The sex ratio of women to men was 2. Thirty percent of patients suffered from a psychological disorder such as anxiety and depression. The average duration of the disease was 9.42 years. The most frequent clinical manifestation was pruritic excoriated papular lesions in 81.5% followed by pruritic papulo-nodular lesions in 18.5% of cases. The disease was generalized in 33.3% of cases. The intensity of pruritus was severe to very severe in 48% according to the visual analog scale. Sixty-eight percent of patients had moderate to severe impairment of quality of life according to the Dermatology Life Quality Index (DLQI).

Regarding management, all patients received therapeutic education to reduce skin irritation and scratching, and symptomatic treatment of pruritus. For background treatment, 66.6% of patients were treated with moderate to strong dermocorticoids (DC) with good progression, 22.2% were treated with UVB phototherapy 25 to 35 sessions (3 sessions/week) with good progression in two thirds of patients, recourse to systemic treatment was the case in 2 patients who were put on thalidomide 100 mg/d with good progression.

An improvement in the quality of life was noted in all our patients after treatment.

#### **Conclusion:**

Chronic prurigo is a disabling condition with significant impact on the quality of life of patients, their management is a challenge for dermatologists that requires a continuous evaluation of patients in search of relapse and psychological complications.



**Abstract N°: 1729****Chronic prurigo revealing multiple myeloma**Malek Mrad<sup>1</sup>, Anissa Zaouak<sup>1</sup>, Amal Chamli<sup>1</sup>, Refka Frioui<sup>1</sup>, Houda Hammemi<sup>1</sup>, Samy Fenniche<sup>1</sup><sup>1</sup>Habib Thameur hospital, Dermatology, Tunis, Tunisia**Introduction & Objectives:**

Prurigo is a chronic, inflammatory dermatological condition. It is often associated with an underlying pathology. Association with hematological malignancies, particularly Hodgkin's lymphoma, is common, but association with multiple myeloma is much scarcer. We report a case of paraneoplastic prurigo associated with multiple myeloma.

**Results:**

A 72-year-old female patient with no previous history of the condition consulted us with intense, generalized pruritus that had been present for 2 years, associated with fatigue and general ill health. On examination, the patient had multiple excoriated papulo-nodules with scratching lesions and hyper- and hypopigmented dyschromic scars on her upper back, buttocks, and the extensor surfaces of her limbs. The face, palms, and soles were spared. The rest of the physical examination was unremarkable. The diagnosis of chronic prurigo was made. An aetiological work-up was carried out; the hemogram showed normocytic normochromic anemia (hemoglobin 9 g/dl), renal and liver function, and blood calcium levels; the thyroid and viral serologies were normal. The chest X-ray was unremarkable. A monoclonal peak in gamma globulin on blood protein electrophoresis was identified. The diagnosis of multiple myeloma was suspected. Immunofixation revealed the presence of a monoclonal IgG lambda protein. Free light  $\lambda$  chains were present in the urine, and beta-2 microglobulin levels were normal. She had no osteolytic lesions on the skeletal X-ray. A sternal puncture showed plasma cell infiltration (more than 20%) with atypical and immature cells. The diagnosis of multiple myeloma associated with prurigo was confirmed. The patient was referred to hematology for further management. A partial regression of the pruritus and the beginning of improvement of the prurigo lesions were noted after the first chemotherapy session.

**Conclusion:**

chronic prurigo is a condition of unknown origin defined by the association of intense pruritus with papulo-nodular lesions. Clinically, prurigo manifests as numerous, symmetrically distributed hyperkeratotic or erosive nodules, especially in areas that can be scratched. Prurigo can be a sign of several diseases, including inflammatory dermatoses, internal diseases (diabetes mellitus, chronic renal failure), HIV infections, hepatitis C, neurological/psychiatric disorders, solid cancers, and haemopathies. The haemopathies most frequently associated with prurigo include Hodgkin's lymphoma and Vaquez's disease. The association of prurigo with multiple myeloma is rare but has been reported in various series. The pathology is not yet well understood. It has been suggested that prurigo may be related to an increased release of pro-inflammatory and pruritogenic cytokines, including interleukin-6 and interleukin-31. In myeloma, pruritus may also be related to the hypercalcemia and/or renal failure associated with the disease. However, the absence of these conditions in our case and the improvement noted after the start of treatment suggest a direct causal relationship between myeloma and prurigo.

This case study highlights the importance of always considering prurigo as a secondary manifestation of an underlying pathology, in particular a malignant pathology. A meticulous clinical examination and a thorough biological work-up, including serum protein electrophoresis, should be repeated during follow-up, particularly when the patient does not respond to treatment.



**Abstract N°: 1806****Desciphering the underlying causes of chronic pruritus in the absence of cutaneous lesions**

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**Introduction & Objectives:**

Chronic pruritus stands as a prevalent symptom across a myriad of dermatological afflictions, acknowledged for its potential to profoundly impact the quality of life for patients, occasionally evading conventional therapeutic interventions. While it manifests within the realm of both dermatological and systemic conditions, chronic pruritus typically presents alongside diverse cutaneous manifestations that aid in elucidating the root cause. The principal aim of this case report is to highlight an exceptional scenario wherein a patient experiences chronic pruritus devoid of any discernible cutaneous lesions.

**Materials & Methods:**

We present the case of a Caucasian female suffering of intense chronic pruritus without visible cutaneous lesions.

**Results:**

A 76-year-old female patient reported itching and stinging on her skin, without any visible skin lesions, except for a few reachable scratch marks and dry skin. A thorough physical examination revealed varicose veins, distal onychopathia, and excoriations in different stages of healing. Reviewing the patient's medical history and previous records, it was shown that the itching persisted for a few months despite mild relief from standard antihistamines and skin moisturizers, but no causative agent was found. The patient has consulted with several dermatologists and the conclusive diagnosis has been identified as psychogenic pruritus.

We performed a broad differential diagnosis of the pruritus, which included metabolic pruritus, neurogenic pruritus, aquagenic pruritus, psychogenic pruritus, senile pruritus, drug-induced pruritus and malignancy. A team of experts was assembled, and several interdisciplinary examinations (radiology, endocrinology, psychiatry, nephrology) were conducted leading to the identification of stage I bladder cancer.

The individual was directed to the urology department, where endoscopic intervention was undertaken to remove the bladder cancer. Subsequent to the tumor removal and employing a blend of conventional and alternative approaches over the ensuing month, there was a notable enhancement in the patient's quality of life, coupled with a substantial reduction in the sensation of itching.

**Conclusion:**

Persistent pruritus, though initially appearing commonplace, stands out as one of the few dermatological manifestations capable of significantly impacting patients' quality of life and serving as an indicator of an underlying systemic condition requiring prompt attention. This case report endeavors to emphasize the significance of an interdisciplinary approach in situations that may appear straightforward but where the role of the dermatologist may\* be crucial in exposing the primordial etiology.

