**007**

**Open-label, prospective pilot study on combined use of pulsed dye laser and 1% topical rapamycin in cutaneous capillary malformation**

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Pulsed dye laser (PDL) has been considered as a first-line treatment of choice for cutaneous capillary malformation. The regression or revascularization of blood vessels after PDL treatment is one of the causes of treatment failures which may be explained by angiogenesis via the induction of the hypoxia inducible factor-1α (HIF-1α) and vascular endothelial growth factor (VEGF) pathway (pathway). Thus, the demonstration of rapamycin (RPM), which is also known as sirolimus, was introduced as a possible adjunctive therapeutic option to minimize post-laser revascularization in facial capillary malformations. We evaluated the effect of combined use of 1% topical RPM with PDL compared to PDL alone in cutaneous capillary malformation of trunc or extremities and tried to identify the effective length of RPM application. The study design was a prospective side-by-side comparison of 5 patients. Three adjacent areas of cutaneous capillary malformation which had never been treated before were selected in each patient. The same region was irradiated with a single dose of 12 J/cm² for 1 week post-PDL, and (C) PDL + topical RPM for 8 weeks post-PDL. Each patient was treated by PDL (Vbeam Perfecta®, Candela/Syneron, Wayland, MA) every 8 weeks at cycled settings with the following parameters: flusence 4.75–5.25 J/cm², pulse duration 0.45 ms, focal spot size 10 mm, 1 shot. Topical RPM was applied to the area once daily. Clinical outcomes were measured using chromator (Minolta chromator CR-400). Only one of five patients showed a decrease in color of capillary malformation with combination treatment with RPM and PDL treatment. Overall, there was no statistically significant difference in redness (p = 0.65 at 8 weeks, p = 0.05 at 16 weeks in Kruskal-Wallis test) and blanching rate between PDL alone and combined topical RPM regimens. In conclusion, topical RPM does not seem to be effective as a treatment modality for port wine stains.

**008**

**Beneficial effect of ustekinumab in familial pittingyria rubra pilaris with a new missense mutation in CARD14**

JHT is a traditional herbal medicine composed of ten medical plants and has been administered to patients with suppurative skin disease in Japan. This study investigated the beneficial effect of JHT in familial pittingyria rubra pilaris (FPRP) patients. Seven out of 10 FPRP patients showed an improvement in their clinical findings. In most of these patients, the number of pustules on the palms and soles markedly decrease. In addition, some patients showed a disappearance of hyperkeratotic lesions. No adverse event was observed during the study period. Therefore, JHT is seemingly effective against PPP.

**009**

**Activated regulatory T cells in patients with alopecia areata suppressing disease activity**

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Alopecia areata is one of refractory inflammatory skin disorders. However the precise mechanism remains obscure and appropriate treatment for severe cases should be developed even patients experience self regression. We previously evaluated the number of circulating CD4+ CD25+ regulatory T cells were increased substantially, but not statistically significant in alopecia patients compared with healthy controls (4.68±1.24% vs. 3.81±1.12%, p = 0.074). In the present study, we examined three distinct Treg subsets: activated Treg (ATreg), resting Treg (RTreg), and non-suppressive T cells (monTreg). ATreg have the strongest suppressive activity among the three subsets and RTreg are moderately suppressive. We examined these subsets from the peripheral blood in 12 alopecia patients. ATreg and RTreg in patients were significantly higher than those of healthy control (n = 11) (ATreg: 1.87±1.27% vs 0.92±0.44%, p = 0.022; RTreg: 3.22±1.55% vs 2.38±0.44%, p = 0.045). In the three-group comparison, alopecia, pсорiasis (n = 15) and healthy controls, ATreg and RTreg levels in alopecia patients were higher than those in psoriasis (3.22±1.55% vs 1.94±1.38%, p = 0.05). ATreg levels in patients not having alopecia totally were significantly higher than that of healthy controls (2.02±0.95% vs 0.92±0.44%, p = 0.047). ATreg and RTreg levels were negatively correlated with the disease duration (ATreg: r = -0.308, p = 0.047; RTreg: r = -0.544). These results indicated that increased ATreg+RTreg would suppress the disease activity at early phase and induce spontaneous remission to some extent in alopecia patients. Therefore, the maintenance of Treg levels might prevent the disease progression and be a target of new treatment modality.

**010**

**The prevalence of anxiety in patients with psoriasis: A systematic review of observational studies and clinical trials**

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Psoriasis and anxiety are chronic conditions with significant morbidity, and there is evidence that they may exacerbate one another. There is little data on the prevalence of anxiety in psoriasis and the effect of psoriasis treatment on comorbid anxiety. The primary objective of this study is to perform a systematic review of the literature to describe the prevalence and severity of anxiety/anxiety symptoms among adult patients with psoriasis and characterize the effect of anti-psoriatic interventions on anxiety symptoms. We searched PubMed, EMBASE, and the Cochrane Database using search terms ‘psoriasis’ and ‘anxiety’. Results were tabulated and verified by two independent reviewers. Meta-analyses were not performed due to heterogeneity of data. Of 213 publications identified, 938,194 patients from 15 papers were included. The mean age ranged from 31.9-59.4 years old, with a mean PASI score of 7.65-22.8 (reported by nine studies) and body surface area involvement of 29.3-93.8% (reported by two studies). The prevalence of anxiety in patients with psoriasis was 7.48%, which was significantly higher than healthy controls in two of three studies (HR 1.29-1.31, p<0.001 and OR 2.91 [95% CI, 2.01-4.21], p<0.001). Four of five studies (n=2029) demonstrated an improvement in anxiety symptoms with psoriasis treatment. This systematic review demonstrates a high prevalence of anxiety of adult patients with psoriasis, suggesting that patients would benefit from systematic screening. Although the data suggests that anxiety may be improved through various psoriasis treatments, larger prospective randomized trials are needed to confirm this trend.

**011**

**Monogenic type I interferonopathies: from diagnosis to treatment**

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Mutations in genes involved in nuclear acid metabolism, sensing or associated signalling cascades can cause constitutive and sustained activation of type I interferon (IFN). In such monogenic diseases, the skin has emerged as one of the first organs to be affected; where cutaneous pathology, encompassing severe vasculopathy and ‘chilblains’ frequently results in extensive tissue damage and can provide a major clue to the diagnosis of this novel group of disorders. Recognition of the fundamental role of IFN in the pathogenesis of the type I interferonopathies led us to consider the blocking of IFN signalling as a logical therapeutic strategy. On this basis, we have treated patients mutated in 5TME173, encoding the cytosolic adaptor molecule STING, with the Jak1/2 inhibitor ruxolitinib. In such patients, treated for a period of up to 2.5 years, we have observed a remarkable improvement in all major aspects of the clinical phenotype including the devastating skin involvement. We have mapped these clinical effects ex vivo and in vivo by defining the kinetics of pSTAT1 status before and after drug treatment in patients; interestingly, these data reveal an almost complete, but transient inhibition of STAT1 phosphorylation, thereby explaining the lack of infections in patients due to other gain-of-function mutations between the CARD and coiled-coil domain; it was not observed during the study period. Therefore, JHT is seemingly effective against PPP.

**012**

**Jumihaidokoto (Shi-Wei-Ba-Du-Tang), a Kampo Formula, decreases the disease activity of palmpomlar pustulosis**

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Palmoplantar pustulosis (PP) is a chronic skin disease characterized by sterile intraepidermal pustules associated with erythematous scaling on the palms and soles. The standard therapy for PP patients includes topical corticosteroids, topical vitamin D3 analogs, oral cyclosporine A, pсорalen plus ultraviolet A therapy (PUVA) and narrowband ultraviolet (UVB). However, clinicians often experience PUF that is refractory to these treatments. Jumihaidokoto (JHT) is a traditional herbal medicine composed of ten medical plants and has been administered to patients with suppurative skin disease in Japan. This study investigated the effect of JHT on the disease activity in PP patients (n = 10). PP patients were administered IH (0.6 g 3 times per day, Kakuze Holdings, Ltd, Tokyo) for 4 to 8 weeks in addition to their prescribed medications. The disease severity of PP was evaluated using the palmoplantar pustulosis area and severity index (PPASI). The PPASI score was calculated by the following formula: (area% × severity) + infiltration × 0.6 (7). In our study, the number of pustules on the palms and soles markedly decreased. Seven out of 10 PP patients showed an improvement in their clinical findings. In most of these patients, the number of pustules on the palms and soles markedly decrease. In addition, some patients showed a disappearance of hyperkeratotic lesions. No adverse event was observed during the study period. Therefore, JHT is seemingly effective against PP.