

## INTISARI

**Latar Belakang:** Erupsi papular pruritik (EPP) merupakan dermatosis dengan gejala gatal pada penderita *Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome* (HIV/AIDS). Prurigo nodularis (PN) juga merupakan dermatosis gatal dengan gambaran lesi dan histopatologis yang serupa dengan EPP. Etiopatogenesis keduanya melibatkan sitokin sel limfosit *Thelper* (Th) – 2. Kedua penyakit bersifat kronis dan kambuhan sehingga menimbulkan tantangan pengobatan. Penggunaan agen biologis merupakan perkembangan pengobatan berbagai kelainan termasuk dermatosis kronis dan kambuhan.

**Tujuan:** Penelitian ini bertujuan untuk mengetahui dominasi rerata persentase ekspresi sitokin IL-4 dan IL-5 pada lesi PN dan EPP.

**Metode:** Penelitian dengan desain potong lintang pada preparat blok parafin lesi kulit penderita PN dan EPP. Setiap preparat blok parafin dilakukan pengecatan imunohistokimia dengan antibodi monoklonal IL-4 dan IL-5 serta menggunakan kromogen 3,3'-diaminobenzidine (DAB). Ekspresi IL-4 dan IL-5 dinilai dengan program *ImageJ* oleh ahli patologi. Analisis hasil menggunakan uji T tidak berpasangan dengan signifikansi  $p < 0,05$  dan rentang kepercayaan 95%.

**Hasil:** Rerata usia kedua kelompok, durasi penyakit maupun durasi lama simpan sampel dalam sebaran normal ( $p > 0,05$ ). Rerata persentase ekspresi IL-4 berbeda bermakna secara statistik pada kelompok PN dan EPP ( $p = 0,000$ ;  $p < 0,05$ ) dan rerata persentase ekspresi IL-5 tidak berbeda bermakna secara statistik pada kelompok PN dan EPP ( $p = 0,060$ ;  $p > 0,05$ ). Rerata persentase ekspresi IL-4 pada kelompok PN lebih tinggi dibanding kelompok EPP. Rerata persentase ekspresi IL-5 tereksresi tinggi baik pada kelompok PN maupun EPP.

**Kesimpulan:** Terdapat perbedaan rerata persentase ekspresi IL-4 dan IL-5 pada lesi prurigo nodularis ( $p < 0,05$ , CI 05%). Terdapat perbedaan rerata persentase ekspresi IL-4 dan IL-5 pada lesi erupsi papular pruritik ( $p < 0,05$ , CI 05%). Terdapat perbedaan rerata persentase ekspresi IL-4 pada lesi prurigo nodularis dan erupsi papular pruritik ( $p < 0,05$ , CI 05%). Tidak terdapat perbedaan rerata persentase ekspresi IL-5 pada lesi prurigo nodularis dan erupsi papular pruritik ( $p < 0,05$ , CI 05%).

**Kata kunci:** *prurigo nodularis, erupsi papular pruritik, interleukin-4, interleukin-5, imunohistokimia*

## ABSTRACT

**Background:** Pruritic papular eruption (PPE) is a dermatosis with pruritic symptoms in patients with Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS). Prurigo nodularis (PN) is also an itchy dermatosis with lesions and histopathological features similar to those of PPE. The etiopathogenesis of both involves *Thelper* (Th) – 2 cell cytokines. Both diseases are chronic and relapsing thus presenting treatment challenges. The use of biologic agents has led to developments in the treatment of various disorders including chronic and relapsing dermatoses.

**Objective:** This study was aimed to determine the mean percentage of IL-4 and IL-5 cytokine expression dominance in PN and EPP lesions.

**Methods:** This study was a cross-sectional design on paraffin block preparations of skin lesions in patients with PN and EPP. Each paraffin block preparation was carried out by immunohistochemical staining with monoclonal antibodies IL-4 and IL-5 and using the chromogen 3,3'-diaminobenzidine (DAB). Expression of IL-4 and IL-5 was assessed with the ImageJ program by a pathologist. Analysis of the results using an unpaired T test with a significance of  $p < 0.05$  and a 95% confidence interval.

**Results:** The average age of the two groups, disease duration and storage samples duration in normal distribution ( $p > 0.05$ ). The mean percentage of IL-4 expression was statistically significant in the PN and PPE groups ( $p = 0.000$ ;  $p < 0.05$ ) and the mean percentage of IL-5 expression was not statistically significant in PN and PPE groups ( $p = 0.060$ ;  $p > 0.05$ ). The mean percentage of IL-4 expression in the PN group was higher than the PPE group. The mean percentage of IL-5 expression was high in both PN and PPE groups.

**Conclusion:** There was a difference in the mean percentage of IL-4 and IL-5 expression in prurigo nodular lesions ( $p < 0.05$ , CI 05%). There was a difference in the mean percentage of IL-4 and IL-5 expression in pruritic papular eruption lesions ( $p < 0.05$ , CI 05%). There was a difference in the mean percentage of IL-4 expression in prurigo nodular lesions and pruritic papular eruptions ( $p < 0.05$ , CI 05%). There was no difference in the mean percentage of IL-5 expression in prurigo nodular lesions and pruritic papular eruptions ( $p < 0.05$ , CI 05%).

**Keywords:** *prurigo nodularis, pruritic papular eruption, interleukin-4, interleukin-5, immunohistochemistry*