Southeast-Asian J. of Sciences: Vol. 2, No 1 (2013) pp. 101-107

CLINICAL MANIFESTATIONS OF PSORIATIC NAIL AT THE NATIONAL HOSPITAL OF DERMATOLOGY AND VENEREOLOGY (NHDV)

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Abstract

Psoriasis is a common skin disease and nails are frequently involved. Although nail psoriasis occurs frequently in patients with psoriatic skin lesions, effective treatments are limited. Objective: investigating clinical manifestations of psoriatic nail at the National hospital of dermatology and venereology (NHDV).

Material and method: the descriptive study was performed basing on data of all patients with psoriasis from 03/2012 to 04/2012. Results: There were 95 patients having nail lesion, accounting for 63,3% of psoriasis patients visit at NHDV, with mean nail psoriasis severity index (NAPSI) score was 43,26 ± 31,45. The proportion of psoriatic nail among difference types of psoriasis: 72,2% of plaque psoriasis, 81,2% of erythrodermic psoriasis, 34,3% of guttate psoriasis and 45,5% of pustular psoriasis. The yellow-brown and crumbling nail was the most common lesion. The mean PASI score was 18,51 8,27 and 8,25 ± 4,64 in patients with and without nail involvement, respectively. The linear relationship between NAPSI and PASI could be represented by the following equation: PASI = 0,17 NAPSI + 8,83, coefficient of determination r = 0,85.

Key words: psoriasis, psoriatic nail, NAPSI.

I. INTRODUCTION

Nail involvement is very common in the course of psoriasis. Nail psoriasis is reported to affect 80% of patients with psoriasis at some point in their lives. It has been shown to be associated with longer duration of skin lesions. In addition, there is a positive association between the duration of psoriasis and the severity of nail involvement. A number of studies which focused on the relationship between the psoriasis area and severity index (PASI) and NAPSI have been published. However there have been limited such studies in Viet Nam. The main purpose of this research was to assess nail lesion in psoriasis patient in NHDV.

II. MATERIAL AND METHOD

2.1. Material and method

• Material:
- patients diagnosed as psoriasis who were examined and treated at NHDV from 03/2012 to 04/2012.
• Method:
- A descriptive study was performed
- Procedure:
+ Ask patients about: clinical history, duration of disease, time of nail lesion.
+ Clinical examination, photography, evaluates PASI and NAPSI score.

2.2. Statistical analysis: SPSS 16.0

III. RESULT

3.1. Prevalence of nail involvement

Of 150 patients examined and treated at NHDV in March and April 2012, nail lesions were seen in 95 patients, accounting for 63,3%.

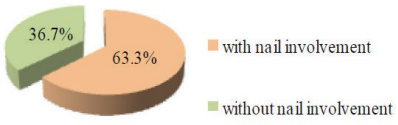


Figure 1: Prevalence of nail involvement

3.2 Prevalence of nail involvement of psoriasiss types

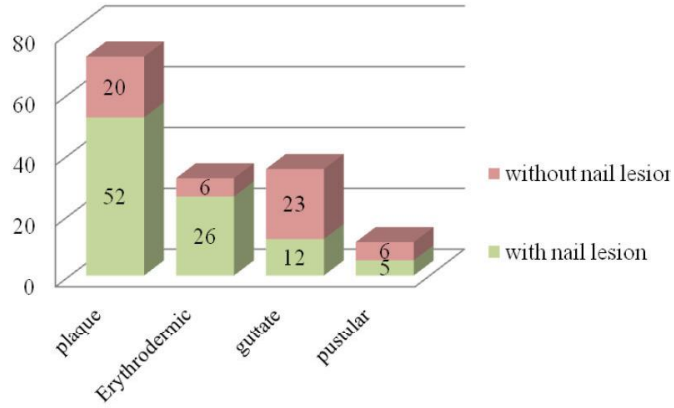


Figure 2: Prevalence of nail involvement of psoriasis's types

Number of patients with each type of psoriasis: 72 patients with plaque psoriasis, 32 patients with erythrodermic psoriasis, 35 patients with guttate psoriasis and 16 patients with pustular psoriasis. The erythrodermic patients had highest nail lesion prevalence (81,2%), followed by plaque patients (72,2%), pustular psoriasis (45,5%), and the guttate patients had the lowest prevalence (34,3%)

3.3. Prevalence of clinical forms of nail psoriasis

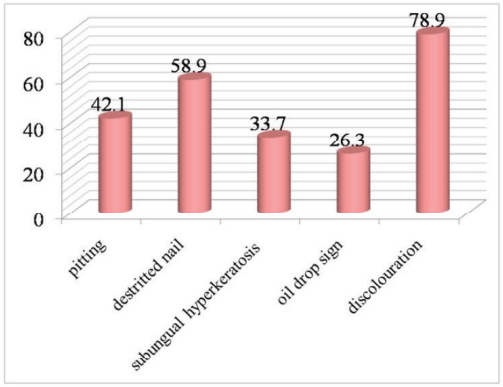


Figure 3: Clinical forms of nail psoriasis

The most common nail lesions was nail discoloration, which was present in approximately 80%, this was followed by districted nail (58,9%) and pitting

(42,1%). The least common form are oil drop sign (accounting for 26,3%) and subungual hyperkeratosis (33,7%).

3.4. The mean PASI score

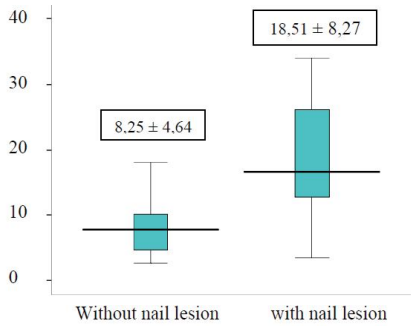
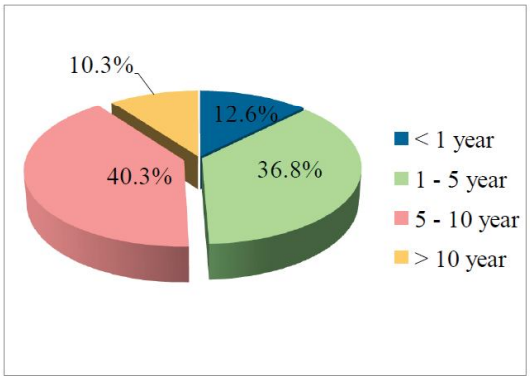


Figure 4: PASI score in patient with and without nail lesion

The mean PASI score was 18,51 ± 8,27 and 8,25 ± 4,64 in patients with and without nail involvement, respectively.

3.5. Disease duration



Maximum number of patients i.e. 17 (40,3%) were affected by the disease from 5-10 years while in only 6 (12,6%) patients, disease duration was < 1 years.

3.6. Association between NAPSI and PASI

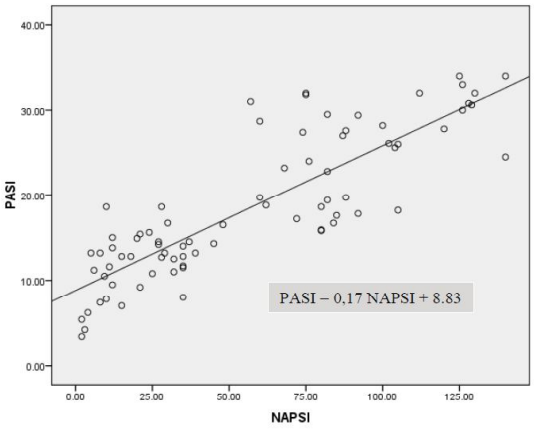


Figure 6: Association between NAPSI and PASI

There is a linear relationship between PASI and NAPSI: PASI = 0,17 NAPSI + 8.83 with r = 0,85.

IV. DISCUSSION

Among 150 patients examined and treated at NHDV in March and April 2012, the number of patients with nail lesions were 95, significantly higher than the group without nail involvement ($p < 0,05$). According to Phoebe Rich and Christopher E.M.Griffiths, nail psoriasis reportedly affects 10% to 50% of patients with psoriatic skin lesions and is positively associated with both longer duration and greater extent of skin disease. It is estimated that nearly 90% psoriasis patients have nail lesions at some point in their lives [6]. Salomon J. suggested that 78% of inpatient has nail lesions [7]. The mean NAPSI score in our research was measured as $43,26 \pm 31,45$, higher than Hallaji Z. ($15,15 \pm 26,37$) and C. Fischer Levancini ($14,3 \pm 6,34$) [3],[2]. The primary reason for these differences are subjects and disease duration. Our subjects are mainly in-patient with more severe skin and nail involvement. In addition, limitation in living standard and awareness has prevented our patients from accessing health care service earlier.

Among psoriasis patients in our research, the most common type is plaque psoriasis (account for 48%), followed by guttate psoriasis (23,3%). Pustular and erythrodermic psoriasis, which mainly caused by inappropriate treatment with unknown original herbs, are severe type with lower prevalence (7,3% and 21,3% respectively). 72 patients with plaque psoriasis, 32 patients with ery-

throdermic psoriasis, 35 patients with guttate psoriasis and 16 patients with pustular psoriasis. The highest nail lesion prevalence was observed in erythrodermic and plaque patients (with 81,2% and 72,2% respectively). In pustular and guttate patients the prevalence was lower (45,5% and 34,3% respectively). The correlation between nail involvement and severe skin lesion, which was concerned in many other researches, could be responsible for differences in prevalence of nail psoriasis. In addition, limitation in number of subjects, the small sample size resulted in reality prevalence.

The most common nail involvement in psoriasis patients was nail discoloration , which was present in approximately 80%, this was followed by districted nail (58,9%) and pitting (42,1%). The least common form are oil drop sign (accounting for 26,3%) and subungual hyperkeratosis (33,7%). It was recognized that patients who had short disease duration and mild skin lesion, the nail involvement was usually absent or pitting nail. The number of nails pitting is positively associated with disease duration. The most common nail involvement in patients with long disease duration, severe skin disease are districted nail subungual hyperkeratosis, and discoloration. The average disease duration is $4{,}34 \pm 10{,}21$ year. 40,3% and 10,3% of patients were affected by the disease from 5 to 10 year and over 10 year, respectively. Thus, long disease duration of psoriasis patients in our research has substantial influence on distribution of nail involvement. It is necessary to have more research with bigger sample size and longer time to access the reality of nail involvement.

The nail psoriasis severity index has recently been reported as a possible reproducible, objective, and simple tool for clinical assessment of psoriatic nail disease. In our research, PASI and NAPSI were used to access the severity of nail and skin s involvement as well as correlation between nail involvement and skin disorder [5]. Because PASI score should only be used for expressing disease severity of plaque psoriasis, pustular and guttate psoriatic patient were not evaluated. According to figure 4, patients with nail involvement have a statistically significantly higher mean score than the other group ($18{,}51 \pm 8{,}27$ in comparison with $8{,}25 \pm 4{,}64$). There was a closely correlation between PASI and NAPSI score. By the linear regression analysis of scores, the following equation seems to best represent the relationship: PASI = 0,17 NAPSI + 8.83 and r = 0,85. The relationship between the severity of skin and nail disease is a matter of controversy. Rich et al reported no correlation between baseline NAPSI and PASI scores [6]. On the other hand, Zahra Hallaji et al (2010) suggested a significant weak association between the severity of nail disease and skin disorder with equation PASI = 0.11 NAPSI + 6.36 and r = 0,1 [3]. In addition, Williamson et al (2004) suggested a significant association between the severity of nail disease as measured by the Psoriasis Nail Severity Score (PNSS) and the severity of psoriasis measured by the percentage of body surface area and the physicians global assessment of the disease.

In conclusion, nail psoriasis occurs frequently in patients with psoriatic skin

lesions, especially with long disease duration. It has been reported that nail disorder significantly associated with severe skin involvement. Although there are effective treatment approaches for skin lesions, treatment of nail psoriasis is rather difficult.

V. CONCLUSION

There were 150 patients who patients diagnosed as psoriasis, examined and treated at NHDV from 03/2012 to 04/2012:

- 95 patients has nail lesion, accounting for 63,3%
- The highest proportion of psoriatic nail among difference types of psoriasis: 72,2% of plaque psoriasis, 81,2% of erythrodermic psoriasis,
- The discoloration (78,9%) and districted nail (58,9%) were the most common lesion.
- The mean PASI score was $18{,}51 \pm 8{,}27$ and $8{,}25 \pm 4{,}64$ in patients with and without nail involvement, respectively.
- The linear relationship between NAPSI and PASI could be represented by the following equation: $\text{PASI} = 0{,}17\,\text{NAPSI} + 8{,}83$, coefficient of determination $r = 0{,}85$.

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