

Risk Factors of Toe Nail Onychomycosis in Population of Sharaqpur, Sheikhpura, District Punjab

JAVARIA JAMIL, MUHAMMAD JAWAD ANWAR*, AYESHA RASUL AWAN**

ABSTRACT

The purpose of this study is to identify the risk factors associated with onychomycosis among population of district Sheikhpura, Sharaqpur area of Punjab. A total of 60 patients of onychomycosis were enrolled. 51 (85%) patients of onychomycosis had Diabetes mellitus. Age is another important risk factor for onychomycosis. Severity of nail disease also increases with age. In this study, mean age is 55 years. In our population, 50 (83%) patients of onychomycosis belong to agricultural and farming professions. It is concluded that DM, age and occupation are important risk factors for onychomycosis.

Keywords: Onychomycosis, toe nail, profession

INTRODUCTION

Onychomycosis is a fungal infection of nail, which causes destruction of nail plate. Onychomycosis in toe nail is one of the common nail diseases. Onychomycosis is caused mainly by dermatophytes, like *Trichophyton rubrum* and *T. mentagrophytes* which also have association with *Tinea pedis*¹. Non dermatophyte moulds and yeast are also responsible for toe nail infection especially in psoriatic nail as secondary growth. Predisposing factors for onychomycosis are old age, diabetes mellitus, humid warm climate^{2,3}. HIV, immunosuppression and few cases have genetic predisposition to *T. rubrum* infection due to autosomal dominant inheritance^{4,5}.

METHODOLOGY

Sixty patients between 40 to 65 years age, having onychomycosis were registered in the dermatology OPD of Kishwar Fazal hospital, Sheikhpura, from May 2016 to Jan 2017. Written informed consent was taken from all patients. A team of experienced dermatologist and physician supervised the examination and sampling. The visual analogue scale (VAS) was used to score the toe nail changes. VAS has 0 to 15 scores which are as follows: 0 for normal nail, 1-5 for mild nail changes, 6-10 for moderate nail changes and 11-15 for severely affected nails. Nail material was taken from clinically abnormal nail and were examined under microscope after staining with hematoxylin, eosin and (PAS) periodic acid Schiff stains. Microscopic examination after PAS staining is an applicable screening test for early diagnosis of onychomycosis in patients.

*Associate Prof. Amna Anayat Medical College, Sheikhpura

**Demonstrator Pathology, Amna Anayat Medical College, Sheikhpura

Correspondence to: Dr. Javaria Jamil,

RESULTS

Detail of results is given in tables 1, 2 and 3

Table 1: Age distribution

Age	n	%age
40-48	17	28.3
49-56	18	30
57-65	25	41.7
Total	60	100

Table 2: DM and Onychomycosis

	n	%age
DM	51	85
Without DM	09	15
Total	60	100

Table 3: Professions

Professions	n
Farmers	16(26.7%)
Gardeners, flower pickers	18(30%)
Carpenters	06(10%)
Housewives	09(15%)
Driver	01(1.7%)
Others	10(16.7%)
Total	60(100%)

DISCUSSION

In previously reported findings the prevalence of onychomycosis in diabetic patients is 22%^{6,7}. In a study including Danish population of 5755 patients enrolled in general practice, 4.9% of patients having mean age of 55 years had onychomycosis with prevalence of 7% in a subgroup of patients having DM^{3,8,9}. In this study, DM is an important risk factor for onychomycosis. Among 60 patients of onychomycosis included in this study, 51 patients (85%) had DM. Old

age is another important risk factor for onychomycosis. Majority of the patients in this study fall between 57-65 years with mean age 55 years, as reported in previous study⁹. Occupation is also another risk factor for onychomycosis. In this study, out of 60 patients, 16 patients are farmers, 18 patients belong to a profession of gardening and flower picking, 6 are carpenters and woodworkers, 9 females are housewives and one male is a driver. In a nutshell, out of 60 patients, 50 patients (83%) belong to profession which involve exposure of their nails to soil, trees, plants and crops and only 10 patients (17%) have no history of direct exposure.

CONCLUSION

This study shows that onychomycosis is more common in subjects having DM, old age, agricultural occupation. So DM, old age and occupation are important risk factors for onychomycosis.

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