



Is it Subungual Melanoma? Fungal Melanonychia due to Phoma Glomerata

Bu Subungual Melanom mu? Phoma Glomerata Nedeniyle Gelişen Fungal Melanoşiya

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ABSTRACT

A 32-years-old female patient referred to our clinic with melanotic color change at her right thumb nail. It was suspected from subungual melanoma. Therefore a full thickness biopsy and an excavation example was taken from the nail for the histologic and microbiologic examination. The lesion was reported as fungal melanonychia which was occurred by Phoma Glomerata. As far as we know this is the first case that occurred by Phoma Glomerata. Also the case could be misdiagnosed as subungual melanoma. Therefore we aimed to share this case with our colleagues.

Key words: Fungal melanonychia; subungual melanoma; nail disorders.

ÖZET

Otuz iki yaşında kadın hasta sağ ayak birinci tırnağındaki melanotik renk değişikliğiyle başvurdu. Subungual melanomdan şüphelenildi. Bu yüzden tırnaktan histolojik ve mikrobiyolojik inceleme için tam kalınlıkta biyopsi ve kazıntı örneği alındı. Lezyon Phoma Glomerata sebebiyle gelişen fungal melanoşiya olarak raporlandı. Bildiğimiz kadarıyla bu, Phoma Glomerata sebebiyle oluşan ilk fungal melanoşiya olgusudur. Ayrıca olgu subungual melanom olarak yanlış tanı alabilirdi. Bu yüzden bu olguyu meslektaşlarımızla paylaşmayı hedefledik.

Anahtar kelimeler: Fungal melanoşiya; subungual melanom; tırnak bozuklukları

INTRODUCTION

Fingernail discoloration is a common disorder. It may be occurred by several pathologies¹. One of the disorder that cause black color changes at fingernail is fungal melanonychia. It is relatively rare nail disorder but the number of cases are increasing day by day. The main factor of discoloration is superficial infection of the nail. But at immunocompromised patient, the pathology expands to the deep tissues. Fungal melanonychia is resistant to the drug therapies. It is important to define this pathology because it can be

misdiagnosed as subungual melanoma. In this paper, our aim was to report an unusual case who was consulted to our clinic with nail discoloration.

CASE REPORT

A 32-years-old female patient referred to our clinic from dermatology department. The patient's complaint was an exceeding black color at her right thumb nail (Fig. 1). The color change of her nail was continued for 2 years. There was no trauma or infection history. Our preliminary diagnose was subungual melanoma. Therefore we

took a biopsy from nail and nail bed under local anesthesia. Pathology department reported the specimen as fungal melanonychia. For determining the type of the fungus, an example from the nail tissue was sent to the microbiology department. The excavation example was reported as "Phoma Glomerata" (Fig. 2). Patient was referred to the dermatology department for the antifungal treatment. And the lesion was dissolved four months after the beginning of the antifungal agents.

DISCUSSION

Nail discoloration may be due to various reasons. Exogenous pigments including tobacco, dirt, potassium permanganate, tar, iodine, and silver nitrate may cause a brown-to-black pigmentation of the nail, mimicking fungal melanonychia. Subungual hematoma caused by trauma may appear as black color at the nail. Melanocytic hyperplasia such as lentigo or nevus are the other reasons of black or brown discoloration of the nail².

Fungal melanonychia is a rare pathology but may cause dark colored nail. The color may be longitudinal or diffuse according to the fungus type. Periungual infection usually accompanies to the color change. Different kinds of fungi were isolated from nail that make black or brown color¹. The discoloration deepness can be different for this reason. A kind of fungus family produce melanin and they are characterized by their pigmented hyphae over the nail bed²⁻⁵. Some fungus family produce melanin that infiltrates the nail bed^{6,7}. Also sun exposure can stimulate melanin production. Some reports demonstrated that fungal melanin may point to T-cell independent humoral immune response⁸. But we did not observe any immune deficiency in our patient.

Phoma Glomerata is a rapidly growing fungus which is detected to be pathogenic to some plants. It causes rare infection in animal and human⁹. Only

13 cases with skin and subcutaneous tissue infections have been reported in the literature¹⁰. The generic criteria of this fungus are well documented but many of the strains isolated from human infections have not been identified at the species level⁹. Colonies are usually described as brown to olivaceous and even grey in colour. The reverse is brown to dark, brown to black with some species producing a diffusible reddish-brown pigment⁹. Actually, melanin or dark pigment production is a sign of the fungus' resistance to the environment. The endurance to ultraviolet radiation, extreme temperatures, x-ray and gamma radiation was improved at melanized fungi. Also melanin protects the cell wall from hydrolytic enzymes^{11,12}.

Diagnosis of the fungal melanonychia could be done by histology and tissue culture examination. *Phoma Glomerata* can be distinguished from other common indoor *Phoma* species by the presence of multicellular dark chlamydo spores with alternate vertical septae. Some of them resembling *Alternaria* spores and occasionally unicellular chlamydo spores which are also known as 'catenulate dictyochlamydo spores'¹⁰. The antifungal therapy should be performed according to the pathogen fungus¹. Because the differential diagnosis is difficult, a biopsy was taken from the nail and nail bed in the present case. After the diagnosis, dermatology department started the antifungal agent immediately.

As a conclusion, nail discoloration can be due to benign or malignant pathologies. And fungi may be the cause of this symptom which could misdiagnosed as malignant melanoma. As far as we know, this is the first report about fungal melanonychia which was caused by *Phoma Glomerata*. But several fungal pathogens may cause discoloration in nail, so the treatment should be performed according to the culture.



Figure 1. It could be seen the discoloration at the nail surface and nail bed in this picture. Also the tissue destruction is obvious in the nail and nail bed.

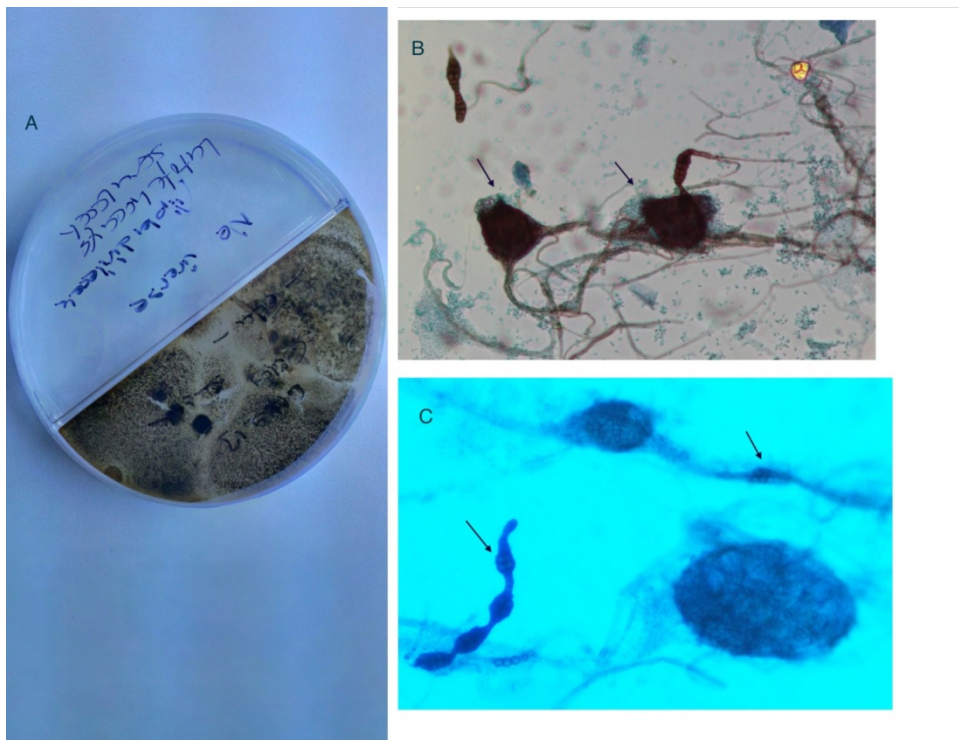


Figure 2. The microbiological examination views were demonstrated in this picture (a) Growth of the *Phoma glomerata* in Saburo dextrose agar, (b) pycnidiums that releasing conidia, (c) pycnidiums and chlamydospores

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