



PHOTOTHERAPY, PHOTODYNAMIC THERAPY

PHOTODYNAMIC THERAPY FOR TINEA PROFUNDA: AN EFFECTIVE THERAPEUTIC ALTERNATIVE.

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BACKGROUND: Photodynamic therapy (PDT) requires the use of a pharmacologically inactive photosensitizing substance which absorbs light of particular range emitted by a light source. The consequence of absorbing light and transferring its energy to oxygen molecules is the formation of singlet oxygen and free radicals that react with lipids and aminoacids damaging cell membranes and cytoplasmic organelles contributing to cell death in the mechanism of apoptosis, necrosis or autophagy. No mutagenic or genotoxic effects on cells have been found so far. Based on clinical data, it can be assumed that PDT is potentially effective against bacterial, viral, fungal and protozoan infections.

OBSERVATION: We present the case of a 62-years old female patient treated in our hospital for Tinea profunda caused by species *Alternaria alternata*. She has been using immunosuppressive medication prednisone and tacrolimus since kidney transplant surgery due to end-stage renal failure in 2013. At admission she presented an inflamed tumor with central ulceration and satellite pustules in the area of left medial ankle. The lesion appeared in January 2014. The patient was initially treated with topical preparations, then, from September 2014, she was given voriconazole resulting in partial improvement. Due to the unsatisfactory results of antifungals we decided to start treatment with photodynamic therapy. The patient underwent two PDT cycles in 4-week intervals using PDT 1200L lamp with following parameters: 100 J/cm², 100 mW/cm², after previous application of 18% 5-aminolevulinic acid (5-ALA) emulsion, resulting in complete remission of the lesion.

KEY MESSAGE: Opportunistic invasive fungal infections are a common problem in immunocompromised patients and imply the need to search for innovative treatment methods. The data presented above confirm the efficacy of the photodynamic therapy which is a highly selective, effective and safe alternative to antifungal medication that is quite expensive and has numerous side effects.

