- Abstract

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Fluorescence diagnosis and photodynamic therapy in dermatology from experimental state to clinic standard methods.

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Abstract

The role of photodynamic therapy (PDT) in the treatment of in situ neoplasias and tumors of the skin is steadily increasing. An intratumoral enriched photosensitizer and its activation by light are the principles of photodynamic action. Aminolevulinic acid (ALA) has been shown to be the drug with most experimental and clinical use in the past. The highest efficacy with most selectivity in topical PDT is postulated for methyl aminolevulinate or methyl aminooxopenoat (MAL, MAOP, Metvix). For solar keratoses, topical PDT using MAL is already considered to be the treatment of choice. Epithelial skin tumors such as basal cell carcinomas also respond very well, however, a debulking procedure of the exophytic tumor tissue is an absolute prerequisite to a successful cure. In addition to functioning as a novel therapeutic tool, photodynamic sensitization of skin cancer cells is increasingly used for fluorescence diagnosis (FD) (also known as photodynamic diagnosis or PDD). The fluorescence of induced porphyrins is effective in detecting and delineating neoplastic skin areas. Future approaches of FD and PDT are nontumoral applications, especially psoriasis, viral-induced diseases, or acne vulgaris. Topical PDT is well tolerated and leads to excellent aesthetic results with only minor side effects.

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