

Advancements in Skin Cancer Diagnosis: A Comprehensive Review

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Abstract

Skin cancer is a significant global health concern, with increasing incidence rates and potential for mortality. Various diagnostic techniques have been developed and refined to improve the accuracy and efficiency of skin cancer diagnosis, including clinical examination, dermoscopy, histopathology, and emerging technologies such as artificial intelligence.

Keywords: Skin cancer; Diagnosis; Dermoscopy; Early detection; Artificial intelligence; Histopathology; Clinical examination; Molecular techniques

Introduction

Skin cancer is a significant and growing global health concern, with its incidence rates steadily increasing over the years. It is the most common type of cancer worldwide, and its early detection plays a crucial role in successful management and treatment outcomes. The timely diagnosis of skin cancer allows for prompt intervention, reducing morbidity and potentially saving lives. Consequently, advancements in skin cancer diagnostic techniques have been a topic of intense research and development. The primary objective of skin cancer diagnosis is to accurately identify malignant lesions while minimizing unnecessary procedures and reducing the risk of missed diagnoses. Traditionally, diagnosis relied heavily on visual inspection and subjective clinical judgment. However, with the advent of technology and medical advancements, several diagnostic tools and methods have emerged to improve accuracy, efficiency, and reproducibility [1].

This comprehensive review aims to provide an overview of the advancements in skin cancer diagnosis. The review will cover various diagnostic techniques, including clinical examination, dermoscopy, histopathology, and emerging technologies such as artificial intelligence (AI) and molecular techniques. By exploring the strengths and limitations of each method, this review will offer insights into the current state-of-the-art diagnostic approaches for skin cancer and shed

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