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Abstract

The Use of Dermoscopic and Confocal Microscopic Technologies in Oncological Diagnosis: A Literature Review †

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Introduction: Dermoscopy and confocal microscopy are technologies used in neoplasm identification through high-resolution image records. These digital tools drive innovation in research on various types of cancer by providing an expanded database to improve the accuracy of oncological diagnoses in clinical practice. **Methodology**: Three studies were incorporated into the research, including systematic reviews and meta-analyses from the years between 2021 and 2025. PubMed was used with the descriptors "technology", "neoplasia" and "microscopy" to assess digital instruments related to the diagnosis of neoplasms. A total of 14 studies focusing on applications across six distinct tumor types were observed, alongside 34 studies dedicated to the exploration of various pathological models. **Results**: Confocal microscopy and dermoscopy pointed to excellent response in tumor pattern recognition, enabling the detection of structures possibly related to neoplasia, such as pseudopods (OR 6.7), with the highest specificity, or to irregular pigmentation (OR 6.4) with the highest sensitivity. This information strengthens the association between technology and oncological research. **Conclusions**: These bibliographic studies underscore the effectiveness of applying dermoscopic and microscopic images in tumor analysis for the identification of neoplasms. Although the information reveals innovative findings, clinical use initiation demands expanding the database for patient safety and efficient treatment.

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