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Ex vivo Confocal Microscopy: revolution in fast pathology in dermatology.

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ABSTRACT

Confocal Microscopy (CM) with in vivo and ex vivo modalities has been used in the evaluation of skin cancer and other dermatological disorders. Recent developments in ex-vivo CM allows for faster pathology assessment with greater accuracy by the visualisation of cellular and architectural details similar to standard pathology either in paraffin embedded or frozen samples. They include the possibility of multimodal confocal microscopy using different lasers and fusion images. New staining protocols including immunostaining with no damage to conventional histopathology preparation have been recently described in melanocytic tumours and inflammatory skin diseases. A digital staining with H&E is also incorporated in the new devices. In this review the applications of ex vivo CM will be presented with the description of the technique and the technology, clinical evidence in dermatology and other fields and further applications. This article is protected by copyright. All rights reserved. KEYWORDS:ex vivo confocal microscopy; fluorescence confocal microscopy; fusion confocal microscopy; reflectance confocal microscopy; review PMID: 32134506 DOI: 10.1111/bjd.19017