Head & Neck Oncology

Poster presentation

The clinical application of elastic scattering spectroscopy

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The diagnosis of carcinomas currently is facilitated and confirmed by the histopathology examination of a biopsy taken from the site of the lesion. The disadvantages of the traditional biopsy techniques include invasiveness, a delay in the diagnosis of the lesion and the taking of unrepresentative samples. We hope to improve the examination procedures to avoid these problems.

The use of non-invasive or minimally invasive procedure such as light scattering spectroscopy should improve head and neck carcinoma diagnosis. Optical technology can be used to examine the living epithelial tissue without need for its removal. Light scattering spectroscopy can also provide valuable information about the function and the structure of the living tissue by giving information about the nucleus such as size, pleomorphism and the amount of the chromatin.

Light scattering spectroscopy is a non-invasive or minimally invasive way for the examination of epithelial dysplasia or carcinoma in situ and to monitor chemotherapy levels, free flap oxygenation levels. It also enables the assessment of surgical margins and lymph nodes during the surgery. If proven to be successful it would also be fast and cost effective.