

***FTIR Microspectroscopy of Spitz Nevi:  
A Preliminary Study***

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Spitz nevi are melanocytic proliferations characterized by spindled and/or epithelioid nevomelanocytes, sometimes leading to diagnostic confusion with malignant melanoma (MM) because of their alarming clinical presentation.<sup>[1,2]</sup> Still now, contrasting opinions persist regarding the benignancy versus malignancy of Spitz tumors. Although immunophenotypic and molecular analyses have begun to clarify their etiologic nature, additional studies are essential to better define these lesions.<sup>[3]</sup> So, we propose an FTIR microspectroscopy approach to characterize benign, malignant and Spitzoid skin lesions through the analysis of spectral changes of melanocytes in order to identify specific spectral markers related to these samples as well as to evaluate the presence of melanine.

The samples were independently reviewed by two expert pathologists and classified into control skin, (C, n= 3), classic (CSN, n= 5), desmoplastic (CDSN, n= 4), atypical (ASN, n= 5) and malignant Spitz nevi (M, n= 3). They were deposited on steel supports for spectral analysis. All the spectral data were submitted to multivariate analysis, affording for each cluster, a representative spectrum. By analyzing these spectra, differences were detectable especially in the secondary protein structure and in nucleic acids conformation.

[1] Casso EM, Grin-Jorgensen CM, Grant-Kels JM. *J Am Acad Dermatol* 27, 901-13 (1992).

[2] Dal Pozzo V, Benelli C, Restano L, Gianotti R, Cesana BM. *Dermatology* 194, 20-51997.

[3] Luo S, Sepehr A, Tsao H. *J Am Acad Dermatol* 65, 1073-84 (2011).