Stromal Monocarboxylate Transporter MCT4 is a Poor Prognostic Factor in Squamous Cell Carcinoma

Mehri Mollaee, MD  
*Thomas Jefferson University, mehri.mollaee@jefferson.edu*

P. Cotzia  
*Thomas Jefferson University*

Patrick Tassone, MD  
*Thomas Jefferson University, patrick.tassone@jefferson.edu*

Adam J. Luginbuhl, MD  
*Thomas Jefferson University, adam.Luginbuhl@jefferson.edu*

Ubaldo E. Martinez-Outshoorn, MD  
*Thomas Jefferson University, Ubaldo.Martinez-Outschoorn@jefferson.edu*

See next page for additional authors

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STROMAL MONOCARBOXYLATE TRANSPORTER MCT4 IS A POOR PROGNOSTIC FACTOR IN SQUAMOUS CELL CARCINOMA

Mollaei M1, Cotzia P1, Tassone P2, Cognetti D2, Lugimbuhl A2, Johnson J3, Martinez-Outschoorn U3, Zhan T4, Curry J2, Tuluc M1

1 Department of Pathology Anatomy and Cell Biology; 2 Department of Otolaryngology; 3 Department of Medical Oncology; 4 Department of Pharmacology & Experimental Therapeutics, Thomas Jefferson University, Philadelphia, PA

METHODS

After IRB approval, records of 86 consecutive patients treated surgically for oral cavity squamous cell carcinoma were reviewed. Clinical data were collected for each patient, and each primary tumor sample was processed onto a tissue microarray (TMA) for immunohistochemistry (IHC) staining. IHC staining was performed for MCT4 antibody (Santa Cruz Biotechnology). Intensity of IHC staining for each sample was acquired using digital pathology interpretation by Aperio. Intensity scores were compared against clinical data to identify potential biomarker for favorable or unfavorable tumor behavior.

RESULTS

Patient demographics and characteristics are shown in Table 1. An example of typical IHC staining for MCT4 and annotated region by Aperio is shown in Figure 1. MCT 4 staining Immunohistochemistry (top). Note that the stroma adjacent to the tumor has stained strongly positive for MCT4. Annotated region by Aperio (bottom)

CONCLUSION

Oral cavity squamous cell carcinoma showed strong MCT4 staining pattern that suggests metabolic compartmentalization in peritumoral stroma, which is associated with disease recurrence and other poor prognostic indicators; thus they may serve as a functional biomarkers for more aggressive oral cavity cancers. Furthermore, therapies to target metabolic coupling may be beneficial in patients with oral cavity cancer.

REFERENCES


