Overexpression of CIP2A in head and neck cutaneous SCC

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ABSTRACT

Objective CIP2A (Cyclin-Dependent Kinase Inhibitor 2A) is a transcription factor involved in a variety of cellular processes, including cell cycle regulation, growth, metastasis, and head and neck SCC. Overexpression of CIP2A in head and neck SCC has been associated with increased risk of metastasis.

Methods: Immunofluorescence of 45 tumor samples (38 head and neck SCC, 2 normal skin) were performed with primary antibodies of CIP2A, PP2A, c-Myc and T58 c-Myc. A total of 38 specimens were examined (5 normal skin). Quantitation of protein expression was determined using CellProfiler software.

Results: CIP2A was significantly overexpressed in head and neck SCC compared to normal skin (p = 0.049), while PP2A expression was increased in head and neck SCC versus normal skin (p = 0.02). Overexpression of CIP2A in head and neck SCC is associated with increased risk of metastasis. CIP2A expression is a negative prognostic marker in other tumor types, which link increased CIP2A expression to metastasis.

Discussion: Immunofluorescence of CIP2A expression in head and neck SCC compared to normal skin demonstrated a significant increase in CIP2A expression in SCC. While CIP2A expression was increased, CIP2A expression was not increased in metastatic SCC compared to non-metastatic SCC. This increase in CIP2A expression was associated with increased risk of metastasis.

Conclusions: Overexpression of CIP2A in head and neck cutaneous SCC is a negative prognostic marker. Future studies may evaluate CIP2A as a possible therapeutic target for the treatment of head and neck cutaneous SCC.

INTRODUCTION

CIP2A is a transcription factor involved in a variety of cellular processes, including cell cycle regulation, growth, metastasis, and head and neck SCC. Overexpression of CIP2A in head and neck SCC has been associated with increased risk of metastasis.

MATERIALS AND METHODS

Specimens from 38 patients with SCC were examined; 5 patients with normal skin were examined as controls. Immunofluorescence of 45 tumor samples (38 head and neck SCC, 2 normal skin) were performed with primary antibodies of CIP2A, PP2A, c-Myc and T58 c-Myc. Quantitation of protein expression was determined using CellProfiler software.

RESULTS

CIP2A was significantly overexpressed in head and neck SCC compared to normal skin (p = 0.049), while PP2A expression was increased in head and neck SCC versus normal skin (p = 0.02). Overexpression of CIP2A in head and neck SCC is associated with increased risk of metastasis. CIP2A expression is a negative prognostic marker in other tumor types, which link increased CIP2A expression to metastasis.

DISCUSSION

Immunofluorescence of CIP2A expression in head and neck SCC compared to normal skin demonstrated a significant increase in CIP2A expression in SCC. While CIP2A expression was increased, CIP2A expression was not increased in metastatic SCC compared to non-metastatic SCC. This increase in CIP2A expression was associated with increased risk of metastasis.

CONCLUSIONS

Overexpression of CIP2A in head and neck cutaneous SCC is a negative prognostic marker. Future studies may evaluate CIP2A as a possible therapeutic target for the treatment of head and neck cutaneous SCC.

REFERENCES