Systemic levels of the soluble co-inhibitory immune checkpoints, CTLA-4, LAG-3, PD-1/PD-L1 and TIM-3 are markedly increased in basal cell carcinoma

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Background

Basal cell carcinoma (BCC) is the most common malignancy, comprising about 75% of all cases of skin cancer, and is the second most common cancer in women. BCCs vary in their clinical features and can occur on any part of the skin. The aim of this study was to examine the systemic levels of soluble co-inhibitory immune checkpoints (CTLA-4, LAG-3, PD-1/PD-L1 and TIM-3) in patients with basal cell carcinoma (BCC) compared to healthy controls.

Methods

Aim

The aim of this study was to examine the systemic levels of soluble co-inhibitory immune checkpoints (CTLA-4, LAG-3, PD-1/PD-L1 and TIM-3) in patients with basal cell carcinoma (BCC) compared to healthy controls.

Results

Table 1: Numbers of patients with distinct clinical types of basal cell carcinoma (BCC). The table shows the numbers of patients with different clinical types of BCC, including upper anterior chest, shoulder, forearm, chest, and neck.

Table 2: Systemic levels of the soluble co-inhibitory immune checkpoints, CTLA-4, LAG-3, PD-1/PD-L1, and TIM-3, in patients with basal cell carcinoma (BCC) compared to healthy controls. The table presents the median values with 25%-75% interquartile ranges for each immune checkpoint.

Table 3: Correlation of soluble inhibitory immune checkpoints. The table shows the correlation coefficients between different immune checkpoints, indicating the strength and direction of the relationships.

Table 4: Cut-off points for the soluble co-inhibitory immune checkpoints. The table provides the cut-off points for each immune checkpoint, calculated using statistical analysis.

Table 5: Heatmap of the Spearman correlation matrix. The heatmap visualizes the correlation coefficients between different immune checkpoints, with colors indicating the strength and significance of the relationships.

Conclusion

The study demonstrates the potential of these proteins to serve as prognostic biomarkers in BCC. The therapeutic potential of dual targeting of PD-1 and TIM-3 in BCC is also indicated, and may provide improved outcomes for patients treated with targeted therapy.

References