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## Tumor infiltrating cytotoxic CD8 T-Cells predict clinical outcome of neuroblastoma in children

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Neuroblastoma is often infiltrated by inflammatory cells. One possible role of these inflammatory cells is that they represent a cell-mediated immune response against cancer. CD8+ lymphocytes are a known crucial component of cell-mediated immunity. This study was to explore the prognostic value of tumor-infiltrating CD8+ cytotoxic lymphocytes in Neuroblastoma. Tumor-infiltrating CD8+ lymphocytes were assessed by immunohistochemical staining of tumor tissue from 36 neuroblastoma from April 2008 to May 2015. The number of CD8+ T-cells was counted in tumor nest (intratumoral) and in the fibrovascular stroma of the tumor (peritumoral), and their relationship with clinicopathologic outcome was determined. The total number of CD8+ cells was inversely correlated with tumor histology grade ( $P < 0.001$ ), vascular invasion ( $P < 0.001$ ), capsular invasion ( $P < 0.002$ ), calcification ( $P < 0.005$ ), necrosis of tumor ( $P < 0.001$ ), regional lymph nodes invasion ( $P < 0.003$ ), distant metastasis ( $P < 0.003$ ), stage ( $P < 0.003$ ), and was positive correlated with N-my oncogene presentation ( $P < 0.002$ ) in neuroblastoma. However, there were no correlation between patient's age, sex, and size of tumor with infiltration of CD8+ cells ( $P < 0.097$ ,  $P < 0.142$ , and  $P < 0.722$ , respectively). In this analysis, the total CD8 T-cell count was a dependent prognostic factor in children. Total number and stromal CD8 lymphocytes were associated with better patient survival ( $P < 0.003$  and  $P < 0.05$ , respectively) in children. CD8 T lymphocytes have antitumor activity and influence the behavior of neuroblastoma and might be potentially be exploited in the treatment of neuroblastoma.

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