Effect of somatostatin analogue octreotide in medulloblastoma in xenograft and cell culture study.


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BACKGROUND: The effect and possible timing of nonradiolabeled somatostatin analogue octreotide are still not determined in the treatment of medulloblastoma, while the presence of somatostatin receptor type-2 (SSTR2) is proved in the majority of medulloblastoma by several authors. PROCEDURES: Daoy, SSTR2A positive medulloblastoma cell culture was tested with octreotide in monotherapy and combined with cisplatin, etoposide, and vincristine. Daoy medulloblastoma mice xenograft was treated with octreotide alone. RESULTS: In monolayer cell culture high-dose octreotide (44 microM) resulted in mitotic inhibition with parallel increment of apoptosis. Combination with cytostatic drugs did not result in additive or synergistic effect, but vincristine was partially antagonized. In medulloblastoma xenograft, octreotide monotherapy (100 microg/kg/day for 10 days) resulted in partial tumor growth inhibition. CONCLUSIONS: High concentration of nonradiolabeled octreotide may have role in the treatment of medulloblastoma by long-term administration. Concomitant administration of octreotide with widely used cytostatic drugs against medulloblastoma will not have beneficial impact.

Publication Types:
- Research Support, Non-U.S. Gov't

PMID: 19579083 [PubMed - in process]