INFLUENCE OF THE ANTIOXIDANT PBN AND TERATOGEN 5-AZACYTIDINE ON RAT EMBRYO DEVELOPMENT *EX VIVO*

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The influence of the antioxidant PBN (N-tert-butyl-a-phenylnitrone) and the DNA demethylating agent 5-azacytidine (5-azaC) on the most critical stage of mammalian development (gastrulation) was investigated *ex vivo*. Microsurgically isolated 9.5-day-old Fisher rat embryos were cultivated for two weeks at the air-liquid surface in Eagle's MEM with 5-azacytidine (5 μM) and/or PBN (22.6 μM) and controls in MEM or in MEM with 50% rat serum. Explant diameters were measured by an ocular micrometer at the beginning of culture and then every other day. Growth areas were determined in arbitrary units and data normalized to those obtained in MEM. 5-azaC impaired growth in comparison to MEM by approximately 40%. PBN applied with 5-azaC ameliorated growth of 5-azaC treated explants by approximately 25%, and in comparison to control grown in MEM by 25%, although it was less than in the medium with serum. *Ex vivo* in a chemically defined proteinless medium, it was possible to discover an ameliorating influence of PBN alone upon the embryo development, which was not possible before in the complicated *in vivo* system during gestation. These results are of importance for new therapeutic strategies in human medicine using antioxidants and epigenetic drugs.

MESENCHYMAL CHONDROSARCOMA OF THE SUBOCCIPITAL REGION: CASE REPORT

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Mesenchymal chondrosarcoma is a rare malignancy, which differs from conventional chondrosarcoma by both specific morphology and clinical features. The rare mesenchymal variant is characterized by a biphasic histologic pattern of small undifferentiated round cells intermixed with islands of malignant cartilage differentiation. Areas resembling a vascular tumor such as hemangiopericytoma may also be present. It typically occurs in young adults, rarely after 40 years of age, with no sex predilection. Mesenchymal chondrosarcoma is a particularly aggressive neoplasm with a strong tendency toward late local and metastatic recurrences, leading to 10-year survival rates below 50%. A 45-year-old female presented with a history of right-sided hearing impairment and headache in the right suboccipital region. Apart from the hearing loss, neurologic examination revealed no other deficits. Multislice computed tomography identified the presence of a poorly vascularized tumor of the suboccipital region. The tumor was surgically resected *in toto* and referred for pathologic analysis. Histology revealed tumorous tissue consisting of small uniform mesenchymal cells with hyperchromatic nuclei and sparse cytoplasm. Some tumor regions showed hemangiopericytoma-like features. Areas of chondroid differentiation with focal ossification were noted between the sheets of small round cells. The cells showed a low mitotic count, without pathologic mitosis. Immunohistochemical staining revealed CD99, BCL2 and vimentin positivity. The diagnosis of mesenchymal chondrosarcoma was made. Because of its specific biological and clinical behavior, it is important to differentiate mesenchymal chondrosarcoma histologically from similar lesions such as hemangiopericytoma, Ewing's sarcoma, primitive neuroectodermal tumor, and other subtypes of chondrosarcoma.