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Apoptosis in gliomas an ultrastructural study

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The occurrence of primary neoplasia of the central nervous system is associated with broad impairment of the host immunocompetence. In the present studies, an ultrastructure analysis of peripheral blood lymphocytes of gliomas patients was carried using Transmission Electron Microscopy and Scanning Electron Microscopy. Under SEM lymphocytes presented smooth surface with loss of microvilli. These cells were referred to as Bald Cells. A similar loss of microvilli and altered cell membrane was observed under TEM. Generally, a low level of immunostaining (CD4+) was predominant in the patient group and the Bald Cell failed to bind any of the monoclonal antibodies. It is hypothesized that activated T cells get activated by the tumor-associated antigen releasing in peripheral blood via break down of the blood-brain barrier. An elevated level of soluble IL-2 receptors observed in serum confirm the shedding phenomenon of surface receptors by activated T Cells. The loss or shedding of phenotypic determinants from the surface of lymphocytes leads to either a low level of immunostaining or complete failure of staining by the monoclonal antibodies. The apoptosis phenomenon subsequently leads to the death of cells. This may be one of the factors responsible for the significant CD3/CD4 lymphopenia observed in gliomas patients. However, the revival of Bald Cells is crucial to restoring the immunity. Present study carried out using the immuno-histopathological technique (PAP &ABC methods with commercially procured monoclonal antibodies). The blood lymphocytes were also viewed under TEM before and after immunostaining.

Biography

Above studies he had presented here is a part of his PhD work, (not yet published) which he has carried in All India Institute of Medical Sciences(AIIMS), New Delhi India. He took science as his passion, moreover he really wants to do work on Apoptosis and always eager to get opportunity to proceed further. Presently he has working on various aspects of Tribes health at ICMR-NIRTH Jabalpur (MP) India.

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