Tumor Liberated Protein (TLP) from lung cancer and perspectives for immunotherapy

While surgery, radiotherapy and chemotherapy are able to cure many cancers, new approaches are required to improve radical curative therapy. A possible route is to utilize the latest achievements made in research on the immunology and genetics of cancer. Cancer immunotherapy, or the manipulation of the naturally occurring oncolytic immune reaction, is based on the observation that both in animals and humans neoplastic cell antigens stimulate the onset of specific humoral and cellular antibodies. Certain difficulties that have been encountered reflect the lack of well-purified antigens and/or their ability to unblock cell immunity in the cancer patient.

Two ways are known to enhance the host’s immunity: aspecific activation (BCG in primis) and specific activation (to stimulate oncolytic circulating and cell antibodies). Moreover, some researchers have performed therapeutic trials with antigens, from autologous and homologous human cancer cells, obtained by various purification procedures.

The first observation by Tarro et al. demonstrated that when TLP is extracted from a tumor, purified in the laboratory, and reintroduced into the patient’s body, it boosts the immune system’s cancer responsive capabilities. As lung cancer accounts for the largest number of cancer deaths in the Western world, TLP may have the potential to greatly improve the cure rate and/or serve as a lung cancer vaccine.

Biography

Giulio Tarro, graduated from Medicine School of Naples University. Research Associate at Division of Virology and Cancer Research, Children’s Hospital and Assistant Professor of Research Pediatrics, College of Medicine, Cincinnati, Ohio. Professor of Oncological Virology at University of Naples. He worked for National Research Council, Rome, and for National Cancer Institute, Frederick Center, Maryland. He became Division Chief of Virology, and then Department Chief of Diagnostic Laboratories, D. Cotugno Hospital for Infectious Diseases, Naples; Emeritus, 2006-. Since 2007 he is Chairman Committee on Biotechnologies and Virus Sphere World Academy Biomedical Technologies, UNESCO, and Adjunct Professor Department Biology Temple University College of Science and Technology, Philadelphia. President Foundation de Beaumont Bonelli for Cancer Research.

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