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Non small cell lung (NSCL) cancer search for biomarkers from body fluids to microarrays

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Lung and bronchus cancers are still one of the most common cancers worldwide, and the estimated numbers of new cases and deaths are more than 2.2 and 1.5 million respectively in the United States in 2013. Despite multi-model treatment strategies, including surgery, radiotherapy, chemotherapy and targeted therapy are used, the death rate of lung cancer is still the first leading cause of cancer-related death both in the World and in the America. The 5-year survival rate of lung cancer, predominantly NSCLC, remains as low as 15%. Therefore, improvements in diagnostics (marker associated with different degrees of malignancy and the consequent clinical behaviour of lung tumors) and treatments are urgently needed. Serological markers such as CEA, NSE (neuron-specific enolase) and Cyfra 21-1 are included in the diagnosis and management of lung cancer, but their diagnostic and prognostic value is still being debated and currently the usefulness of tumor associated antigenic biomarkers in the care of patients with lung cancer is limited. Panel of markers has gained widespread acceptance as a diagnostic test, as a prognostic indicator, or as a monitor of the treatment response. In fact, no useful marker for the screening of asymptomatic patients has been identified to date. Ideally, a biomarker should have one strategy of potentially increase both sensitivity and specificity parameters combining several biomarkers into a prognostic panel. Identification of lung cancer-specific biomarkers, together with other noninvasive methods, may allow for much needed further refinement of lung cancer screening to reduce mortality.

Biography:

Giulio Tarro graduated from Medicine School, Naples University (1962). Research Associate, Division of Virology and Cancer Research, Children's Hospital (1965-1968), Assistant Professor of Research Pediatrics, College Medicine (1968-1969), Cincinnati University, Ohio. Oncological Virology Professor, Naples University (1972-1985). Chief Division Virology (1973-2003), Head Department Diagnostic Laboratories, (2003-2006). D. Cotugno Hospital for Infectious Diseases, Naples; Emeritus, 2006 -. Since 2007 Chairman Committee of Biotechnologies and VirusSphere, World Academy Biomedical Technologies, UNESCO, Adjunct Professor Department Biology, Temple University, College of Science and Technology, Philadelphia, recipient of the Sbarro Health Research Organization lifetime achievement award (2010). President Foundation de Beaumont Bonelli for Cancer Research. His basic researches have been concerned with antigens induced early during the replication cycle of human herpesviruses. Another study has involved the identification, isolation and characterization of specific virus-induced tumour antigens, which were the "finger-prints" left behind in human cancer. Achievements include patents in field; discovery of Respiratory Syncytial Virus in infant deaths in Naples and of tumor liberated protein as a tumor associated antigen, 55 kilodalton protein overexpressed in lung tumors and other epithelial adenocarcinomas.