

Cancer biomarkers in the clinical practice: state of the art and future directions

Massimo Gion, MD

Regional Centre for the Study of Cancer Biomarkers, ABO Association, Department of Clinical Pathology, ULSS12 Veneziana, Italy

Although tumour biomarkers are extensively used in the clinical practice, their impact on meaningful clinical outcomes is still under debate. The first part of the talk deals with the clinical use of established biomarkers and focuses on the following points: (1) the definition of a cancer biomarker; (2) the assay methods, showing advantages and drawbacks of currently available assay technologies; (3) the proper understanding of laboratory findings, bearing in mind the divergences between sensitivity/specificity and predictive values when the disease prevalence is correctly considered; and (4) the current recommendations for routine biomarker application in clinical scenarios. The second part of the talk summarizes the new categories of biomarkers, either already commercially available for clinical investigation or still under development. Pros and cons of the varied marker types are briefly discussed. Finally, the last part of the talk discusses the promising potential application of new biomarkers in reference to the level appropriateness of the clinical use of established biomarkers as well as to the quality of so far performed translational studies.