

Reducing the burden of cancer in the ageing society

Giorgio Fassina
CEO
XEPTAGEN S.p.A.

With the anticipated growth in cancer cases as population's age, the early detection has become critical and represents a key driving force to improve and expand health services. Availability of efficient and cost effective screening devices for cancer early detection are urgently needed to improve quality of life. Mass screening for early detection of cancer will reduce the ever increasing social costs associated to handling patients with diseases which are at advanced stage for failure of existing diagnostic procedures or non adequateness for broad use. One of the most important factors in the survival of cancer is detection at an early stage, and tumour biomarkers are important molecular signatures of the phenotype of a cell that aid in early cancer detection and risk assessment. Many conventional biomarkers have been found overexpressed in neoplastic tissues and some are used for diagnostic application. However, mainly due to the cancer heterogeneity, no single marker has shown to be fully satisfactory in terms of sensibility and specificity for early cancer detection. This still unmet medical need could be fulfilled by combining non overlapping biomarkers and developing nanosized technological platforms for their simultaneous detection, with adequate sensitivity and specificity for clinical use. Simultaneous detection of cancer biomarkers by nanosensing devices may achieve not only an early diagnosis but also provide monitoring of disease progression so as to increase the possibilities and effectiveness of the existing therapies at significantly lower costs.